BEE JOURNAL

Honey Handling Round-up

• What Better Gift for Christmas •

than a Book about Bees to a Beekeeping Friend?

The Hive and the Honey Bee
650 big pages, with over 300 pictures—a really big book; sturdy cloth binding. Packed with how-to-do-it items; studies about the anatomy and physiology of the bee; how the bee works and behaves; the latest about diseases; marketing. Each author an authority in his subject. Second (revised) edition.
Price $4.00

Queen Rearing
A new, complete and up-to-date book by Harry H. Laidlaw, Jr. and J. E. Eckert, of the University of California. Covers the production and mating of queens, breeding and stock improvement. 160 pages, 60 illustrations, cloth bound.
Price $2.50

Honey in the Comb
By Carl Killion. Fine book, finely illustrated, dealing with raising and marketing of comb and bulk comb honey. Cloth, 130 pages. Expert advice.
Price $3.00

Beekeeping in Antiquity
H. M. Fraser $2.00

Swarming and Its Control
Snelgrove $2.50

Honey and Your Health
Beck-Smedley $3.00

The Honey Bee
Butler $2.50

Beekeeping in Britain
Manley $3.00

The Flying Nation
Dorothy Crowder $1.50

Bee Hunting
Lockhart ..... $ .50

American Honey Plants—New Edition
By Frank C. Pellett
The last word in information about honey plants, their use, where to find them, kind of honey from them, new plants you can try. A life work, covering the entire country. New, 460 pages, 200 illustrations. Substantially cloth bound.
Price $6.00

First Lessons in Beekeeping
By C. P. Dadant, (revised by M. G. and J. C. Dadant). A reliable guide to things you must know first about bees, hives, producing honey, etc. Suggests management for a few colonies, the small apiary. Available also in Spanish.
Price $1.00

Bees, Their Vision, Chemical Senses and Language
By Karl Von Frisch. Tells how bees inform their hive mates where the flowers are. Polarization of light, etc. Written in a readable manner.
Price $3.00

Honey Bees and Their Management
Shaw & Whitehead $3.50

A Living from Bees
Pellett $2.50

A.B.C. and X.Y.Z.
Root $3.95

Better Queens
Jay Smith $4.00

Honey Farming
Manley $3.00

Honey Getting
Sechrist $1.00

Beekeeping
Armitt $2.00

All Prices Postpaid.

AMERICAN BEE JOURNAL :-: **Hamilton, Illinois**

Food for Thought

Ours is the Task - to Build Our Own Honey Promotion

October—Honey Month—and National Honey Week for 1952 now are history. As this is being written, it still is far too early to tell what has happened or what the effects of the special promotion by the industry and by the Government have been. From day to day reports are coming in that are very encouraging and worthwhile, and the American Bee Journal is planning a full and complete report for you as soon as possible. But for the present we have two thoughts we would like to present to the honey industry.

First, the effects of the extensive October promotion for honey will have a continuing effect for several months. With a spurt in demand usually comes a slump in effort. We hope this will not be the case. With anything like its share of featuring and promotion, honey should claim its share of the food dollar at a price which will remain remunerative to the producer.

Second, we must begin now to plan and build an effective, continuing honey promotional program of our own. There is little likelihood that we will have the help of the Food Distribution Branch in 1953; we will not always have price support. Ours is the task of studying the results of the October promotion, of accumulating all the experiences throughout the industry, and with the best knowledge we are able to muster, of building for ourselves a honey promotional program on a level that we can support.

This is the way that we can continue to create consumer demand for honey. Consumer demand plus effective merchandising results in more honey sales. This is the way to make honey production profitable. This we must do for ourselves.

How's the Weather?

The late Charles Dadant used to delight in repeating an old French saying, "Les saisons se suivent mais ne se resemble pas"—(The seasons follow each other but do not resemble each other.) It may be similarly remarked of the years.

For several years California had had a dearth of moisture. Even in the mountains the snowfall had been only mediocre. In the Southwest it had been inordinately dry, to the point where even irrigated sections had to dole out the water. Most of the conservation dams not only had no overflow of surplus water, but lake levels were lowered year after year. While pumping operations in this southwest area brought many square miles of desert into cultivation, water table levels dropped while larger supplies of water had to be diverted to human use owing to increasing populations. The question had risen whether it would be necessary to place strict limits on water use of all kinds as a conservation measure.

But now in 1952 we have seen a change. Is it a change in the years, just like the change in the seasons? The west coast was bathed in rain last winter and rainfall in California totaled 20 inches since July 1 as against last year's 6 inches and an overall average of 12 inches. At some of the higher elevations, more than 100 inches of snow fell. Except for some sections of the near Southwest moisture was overaverage. California beekeepers were elated over the flows in the desert areas, the irrigated areas looked for ample moisture, and even Arizona and New Mexico hoped for a refill of their waning water basins.

Does this spurt in moisture presage a series of comparatively wet years? Will the years follow but not resemble those of the recent past?

Importance of Legumes in Dairy Pastures

"Grass is the forgiveness of nature—her constant benediction." These words, written in 1872 by the Honorable John J. Ingalls of Kansas, were the introductory remark in a recent address by R. E. Hodgson, assistant chief of the Bureau of Dairy Industry. He continued:

"Grass takes on added significance in our agricultural economy as we, through necessity and wisdom, turn our efforts toward a grassland agriculture. But grass in the concept of grassland agriculture is not limited to the grasses; it embraces also the common association of the legumes—the clovers, alfalfa, lespedeza, and many others. Man in his association with grass, using it as an important crop to manage his farm land properly and to provide feed for his livestock, has learned that grass will yield greater returns when it is grown with legumes."

The beneficial effects of growing legumes in association with grasses are summarized as follows: (1) There is an increase in crop yield; (2) nitrogen fertility of the soil is maintained and increased; (3) there is an improvement in the texture of the soil; (4) there is an increase in the calcium content of the crop; (5) there is an increase in the protein content of the grass and of the total crop; (6) there is an increase in the palatability of the herbage; (7) there is a stimulating effect on the yield of succeeding crops; (8) there are fewer weeds in the pasture; (9) there is a somewhat better distribution of forage growth throughout the season; and (10) by virtue of the higher carotene content of legumes the vitamin A value of milk is increased.

These legumes are honey plants. Flora is one of the serious problems in beekeeping. We have received numerous reports of decline in the amount of bee pasture over the country. We can help ourselves by being fully informed of the importance of legumes in pastures, spreading this information, and supporting at all times the grassland program for agriculture.

Vol. 92, No. 11 November, 1952

THE AMERICAN BEE JOURNAL

HAMILTON, ILLINOIS

Editor — G. H. Cale
Associate Editors — M. G. Dadant, Roy A. Grout
Managing Editor — Adelaide Fraser

Published monthly at Hamilton, Illinois. Entered as second-class matter at the Post Office, Hamilton, Illinois. In the United States, Canada and Mexico, $2.00 a year; two years $3.50; three years $5.00. Foreign $2.50 a year; two years $4.50; three years $6.50. Subscription stopped at expiration date printed on wrapper. Available on microfilm at moderate prices by writing to University Microfilms, Ann Arbor, Michigan.

Contents

Our Cover Picture

The attractive little honey jar on the cover this month is the work of Mr. and Mrs. Ted Booth, of Grand Rapids, Michigan. The story of its success is in this month's Round-Up on page 466. The photograph on the cover was made by the Booth's son Mike who is a photographer in California. This little jar is proof that honey will sell if it is packaged in an attractive container.

Charles Dadant Commemoration

The memory of Charles Dadant was recently honored by the placing of a plaque on the house of his birthplace at Vaux-sous-Aubigny in France, just fifty years after his death in 1902. It was a token of the esteem with which Mr. Dadant is held, not only in France but in many other European countries, for his efforts in introducing modern methods and the movable comb hive into Europe as well as his recommendation of the Dadant hive which is now the standard for much of Europe.

Following a meeting of the French National Congress of Beekeepers at Metz on August 25, a group of some 75 beekeepers proceeded the next day to Charles Dadant's birthplace at Vaux-sous-Aubigny in the Department of Marne, where they were joined by the local beekeepers' organization and the town's inhabitants in paying homage to him.

After a sumptuous seven-course breakfast presided over by the local Vicar Couchut, Mayor Jayet and Mr. Jobard, a trip was made to the burial ground of the Dadant family. The group then returned to the house where Charles Dadant was born and with fitting ceremonies placed and dedicated a plaque thereon to the memory of the man they had come to honor. The group was welcomed to Vaux by Mayor Jayet. Mr. Jobard, president of the Society of Beekeepers of Haute-Marne spoke on the personal life of Charles Dadant. Mr. P. Horguelin, president of the Honey Producers of France and a 400 colony beekeeper, officially represented the Dadants and spoke of the professional life of Charles Dadant and of his influence on French beekeeping.

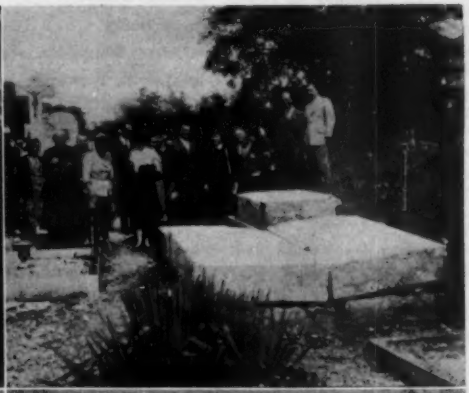
Fortunately, it was possible for the Dadant family in America to be represented personally by the presence of Miss Lillian Snyder, great granddaughter of Charles Dadant — Eugenie Dadant Baxter (daughter of Charles) Florence Baxter Snyder (daughter of Eugenie); Lillian Snyder (daughter of Florence). Miss Snyder is in the services of the Health Department at Washington, D. C., and was at the time attending a convention in Brussels from whence she went to Paris, to Metz and to the dedication at Vaux-sous-Aubigny.

Charles Dadant's birthplace is much as it was when occupied by Charles' father and mother, Dr. Francois and Edmee Jayet Dadant

(Please turn to page 479)

The plaque honoring the memory of Charles Dadant can be seen above and to the left of the pillar in front of the house where he was born. Below, Mr. P. Horguelin speaking to the assembled gathering about the influence of Charles Dadant on French beekeeping.

At the burial ground of the Dadant family. The large stones mark their graves. Below, standing in front of the Dadant house are the President of the Bourgogne Apicole, Mr. Jobard, Mr. Bouchardeau, Miss Lillian Snyder, Mayor Jayet and Mr. Horguelin.



Honey Handling Round-up

Honey - Nature's Best Sweet*

by Dr. V. G. Milum
Professor of Entomology
University of Illinois

HONEY—What is this product that is entitled to such an affectionate term? Honey may be defined as the sweet, viscid fluid elaborated by bees from the nectar collected from the nectaries (floral and extrafloral) of plants and stored in their nests or hives as food. In this discussion, we refer to honey collected by honey bees, but do not include, except as a possible contaminant, honeydew which may be the sweet exudates of plants, such as manna, but is chiefly the excretion of certain homopterous insects, such as aphids, leaf hoppers, and scale insects. U. S. Grade A (U.S. Fancy) and U. S. Grade B (U.S. Choice) extracted honey shall contain not less than 81.4 per cent soluble solids, a water content of not more than 18.6 per cent, a refractive index of not less than 1.49 at 20° C. (68° F.) and a specific gravity of not less than 1.4129 at 20° C., which is equal to a weight of not less than 11 pounds and 12 ounces per gallon.

Since we, or our customers, or all together, the honey consumers, are interested in the final product, let us consider the composition of honey in the light of the definition. It is sweet and it is viscid because on the average, U. S. honeys (see table) contain approximately 77 per cent of sugars and only 17.7 per cent of water. Of the sugars, levulose (average—40.5 per cent) usually predominates over the dextrose (34.02), with a small amount of sucrose (1.9). That honey is generally regarded as an especially sweet product is due to the sweeter levulose portion and the other sugars all being in solution, along with the presence of certain flavor factors from the plants which help to enhance the favorable impression received by the consumer.

Not only is honey an appetizing product, but due to its suger composition it is more desirable in many instances than ordinary sugar (sucrose) as a sweeting agent. Its levulose and dextrose sugars are classified as simple sugars, whereas during digestion, a molecule of sucrose with a molecule of water reacting with the enzyme, invertase, produces one molecule of dextrose and one molecule of levulose. While it is often said that these simple sugars are quickly and easily absorbed, this is not quite true. Only the dextrose (glucose) is in the form to be absorbed by the blood soon after leaving the stomach, i.e., the same sugar used for direct injection into the blood stream in any illness when food cannot be taken in any other manner. Levulose, before becoming a source of muscular energy and heat, must first be converted into glycogen in the liver, then reconverted into dextrose before being transported by the blood stream for assimilation. Thus honey provides an immediate as well as an extended source of heat and muscular energy. Some athletic trainers consider this an important attribute. But besides these values, honey contains proteins, enzymes, minerals, and vitamins, in variable but significant amounts.

Thus the vast majority of honeys, as produced by the bees, are of more or less delectable quality, but unfortunately certain physical and chemical changes may occur which usually have a tendency to impair their quality. The chief changes are due to moisture absorption, granulation, fermentation, discoloration or darkening, and loss of or masking of the original delicate flavor and aroma

* Contribution from the Entomological Laboratories of the University of Illinois.

of the honey. These changes may be more or less interrelated.

The ability of the levulose portion of honey to absorb moisture is a desirable attribute in keeping bakery products moist. However, both before and after extracting and processing, moisture absorption may affect granulation and either or both may influence fermentation. The latter may in turn be prevented by elimination of granulation by proper storage or heating, all of which may have a direct effect upon color, flavor, and aroma of honey. Conditions and treatment which may prevent one or more of these physical and chemical changes from having a deteriorating effect upon one quality of honey may not eliminate the other causes of losses. Complete prevention of some changes may actually result in other losses. Thus there is a complexity of interactions of various factors as depicted in the graph, The Honey Maze-Complex.

Honeys from different plant sources are of various colors due to such included plant materials as pigments, especially, and to chlorophyll decomposition products, colloidal particles, and in some honeys, anthocyanin and tannin (in buckwheat). The original color may be darkened by heating to prevent granulation and fermentation, but more excessive darkening may result from storage at high temperatures. Honeys high in levulose content are more subject to this darkening, hence lower temperatures should be used in processing such honeys. Other factors contributing to the color of honey are the rapidity of the honeyflow (heavy flow gives lighter color), exposure to metals (iron especially darkens), and exposure to light which tends to decrease discoloration. The apparent color of extracted honey is affected by the color of the glass containers and the volume, as well as the light passing through it.

As honeys are of different colors because of their flower sources, likewise do they have different aromas and flavors due to different essential oils and acids secreted with the nectar of the plants. Usually a heavy flow of a particular honey is lighter in color and milder in flavor than a light flow. The essential oils are usually quite volatile and are driven out easily by heating which thus partially complicates the problem of prevention of granulation and fermentation. Nearly all factors which change or alter the color of honey, after it is gathered and stored by the bees, also affect its flavor and aroma. While honey may be ruined by actual overheating in processing, giving it a caramelized flavor, similar and more serious results may follow with storage at high temperatures. Both apparently are due to the breakdown of levulose (fructose), after which the liberated amino acids unite with the aldehyde or ketone radical of the sugars to form substances which resemble caramel in color and flavor.

Although other writers in this Round-up will discuss the methods of producing and preparing honey for market, let us briefly list some of the salient features to keep in mind in giving honey to the consumer and keeping it as nearly as possible like the delightful product as produced by the bees. Extracted honey should be stored by the bees in combs built on new foundation or in drawn combs free from granules or crystals of old honey, as well as yeasts. After the honey is well ripened, it should be removed from the hives and extracted, processed, and stored in crystal-free equipment and containers. If extracting is not done within a few days after removal from the bees (and section comb and bulk comb always), steps should be taken to prevent wax moth injury as discussed in the July issue of this journal.

Extracted honey should first be strained while cool, then heated in a water bath with agitation to assure uniform and quick heating to a temperature comparable to not more than 160° F. (lower for certain honeys) for 30 minutes to prevent granulation and fermentation. (Heating honey to a temperature of

COMPOSITION OF UNITED STATES FLORAL AND HONEYDEW HONEYS*

	Floral Honeys				Honeydew Honeys			
	Av. 92 U.S.	Av. 106 Calif.	Max.†	Min.†	Av. 7 U.S.	Av. 6 Calif.	Max.†	Min.†
Water	17.70	16.50	U26.88	U12.42	16.09	15.72	U17.80	U13.56
Levulose‡ (fruit sugar)	40.50	40.41	U48.61	U24.35		37.5	C41.9	C34.2
Dextrose (grape sugar)	34.02	34.54	U46.40	U24.73		27.2	C32.9	C24.4
Invert Sugars	74.98	74.95	U83.36	C80.52	66.96	64.66	U71.69	C59.45
Sucrose (cane sugar)	1.90	2.53	C11.00	UC0.00	3.01	3.45	C5.74	U0.61
Dextrins	1.51	0.91	C11.91	C0.02	9.70	9.21	C14.41	U6.02
Ash (minerals)	0.18	0.21	C1.14	C0.02	0.81	0.77	U1.29	U0.29
Acid	0.08	0.16	C0.45	U0.04	0.12	0.27	C0.37	U0.05
Undetermined	4.9	4.72	C7.51	U0.04	3.43	5.91	C8.18	U1.57

*This table is a compilation of the analyses of 92 United States levorotatory honeys and 7 dextrorotatory (honeydew) honeys from Browne, C. A., 1908, Chemical analysis and composition of American honeys, U.S.D.A. Bur. Chem. Bull. **110**; also 106 California honeys and 6 honeydew honeys from Eckert, J. E. and H. W. Allinger, 1939, Physical and chemical properties of California honeys, Calif. Agr. Exp. Sta. Bull. **631**.

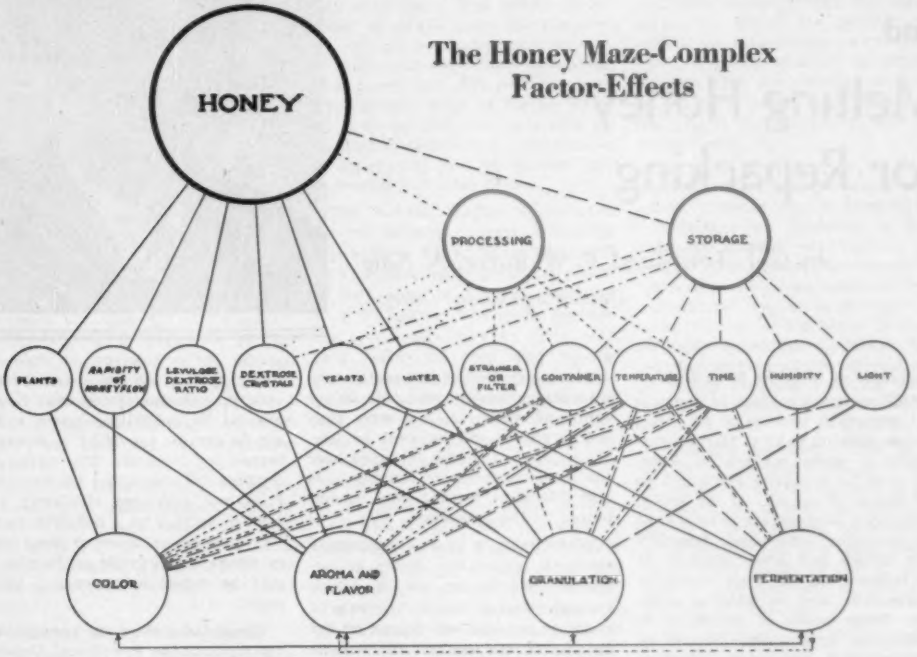
†The maximum and minimum values represent the highest and lowest values of the combined groups of United States (U) and California (C) floral and honeydew honeys.

‡The honey with a maximum of 46.40 per cent dextrose and a minimum of 24.35 levulose was wild pennyroyal. That with the maximum of 48.61 levulose and a minimum of 24.73 dextrose was the average of two tupelo samples analyzed by Browne.

Honey Substances of Variable and Minute Amounts

Pollen grains
  Partial source of vitamins, minerals, and amino acids
Beeswax
Proteins, amino acids, and related compounds
Substances contributing to color
  Chlorophyll decomposition products
  Pigments
    Carotin (yellow)
    Xanthophyll (yellow)
    Of unknown composition (bright yellow and dark green)
  Anthocyanin (rose red and dark purple)
  Tannin or tannic acid (dark)
  Colloidal particles—includes items listed elsewhere
Substances contributing to aroma and flavor
  Essential oils
    Terpenes, aldehydes, methyl anthranilate (an ester)
  Volatile and nonvolatile acids including tannic acid
Higher alcohols: such as mannitol and dulcitol
Maltose: sometimes melezitose in honeydew honeys
Enzymes: Invertase, diastase, inulase, catalase
Vitamins: A (minute amounts); B-complex (B_1, B_2, B_6, Biotin, Folic acid Nicotinic acid, Pantothenic acid); and C-ascorbic acid.

145° F. for 30 minutes is usually sufficient to prevent fermentation but not granulation.) After heating it should be strained through a filtering material at least equal to sugar-sack toweling, placed in containers while hot, and sealed with airtight closures. All air bubbles and foam should be eliminated by proper apparatus. Processed and packaged honey should be cooled promptly and placed in storage in a dry atmosphere with a uniform temperature at any convenient and economical point below 70° F., to prevent excessive discoloration and impairment of flavor and aroma. Bulk comb, cut comb and section comb honey, usually sold more promptly, are best stored at a uniform temperature near 80° F. to prevent granulation.



The above diagram illustrates the multiplicity and interaction of factors which are involved in the problem of producing and processing honey in order to present the customer with a quality product. By no means are all factors included. For instance, if the sweetness of honey, which is considered by some connoisseurs as separate and distinct from aroma and flavor, were included then additional lines and circles would be required. Likewise, under "plants" all the factors contributing to "color" and "aroma and flavor" are not named. These are listed in the tables of the composition of honey.

Jugoslavia Beekeeping . . .

According to "Journal Suisse" there were in 1951 800,000 colonies of bees in Jugoslavia. Of these only half were in movable comb hives, an equal number being still in the box hives with fixed combs.

Hives of the World . . .

"Bee World" Abstracts are interesting reading. In the July number is a report from J. D. Campbell of "Bee Craft." It is estimated that 6½ million Langstroth frame hives are in use in U.S.A., Canada, Australia, and South Africa, with a half million in the rest of the world; and rather more than 7 million other frame hives in Europe, Turkey and U.S.S.R. "The Dadant-Blatt may be the most used frame in the world today."

Another report indicates that while Russia has mostly movable-comb hives, the Pripet marshes of White Russia have great numbers of log hives to the exclusion of others, a custom dating back probably hundreds of years.

Swedish Book . . .

"Rationell Biskotsel" is a 110-page book on beekeeping with C. G. Carlson and Ake Asplund as authors. The book can be obtained at a price of $1.50 by addressing Forfattarens Forlag in Stockholm.

Quantity Recipes . . .

The above is the title of a bulletin published by the Bureau of Human Nutrition and Home Economics, Agricultural Research Administration, USDA, in August 1952. In it are given honey recipes in quantities ranging from 20 to 120 portions. Recipes range from cakes and cookies to sandwiches and drinks made with honey. This information will be useful to restaurants, schools and institutions needing large quantity recipes. Interested persons should write to Dr. Hazel K. Stiebeling, Director of the Bureau mentioned above, who is responsible for publication of the bulletin.

Removal of Moisture from Honey

and

Melting Honey for Repacking

by G. F. Townsend, P. W. Burke, A. Adie*

Ontario Agricultural College

Removal of Moisture from Honey

THE moisture content of honey is important because of its effect on keeping quality. Marked variations in water content do occur, and may be primarily attributed to the degree of ripeness of the honey, which to a large extent is related to the prevailing atmospheric humidity both before and after removal of the honey from the hives. Honey is hygroscopic, and so absorbs moisture. When honey is permitted to remain too long above escapes or is stored in a cool, damp house, it may absorb moisture.

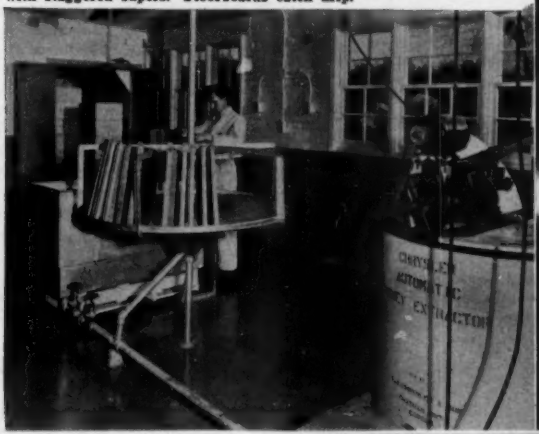
* This is a condensation of two circulars from the Ontario Agricultural College, Circular No. 123 "Removal of Moisture from Honey," May, 1952, by G. F. Townsend and P. W. Burke; and Circular No. 121 "Melting Honey for Repacking," April, 1952, by G. F. Townsend and A. Adie; Department of Apiculture, Ontario Agricultural College, used by permission.

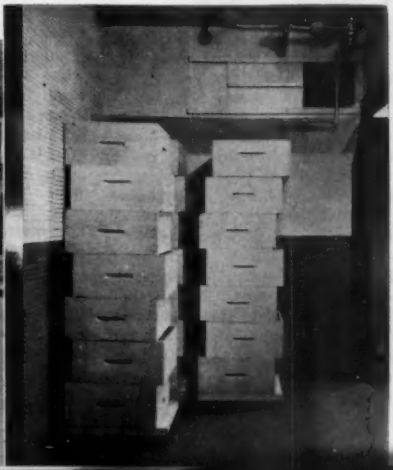
The honey bee gathers nectar with an average water content of 60 per cent and within a few days may reduce this to 20 per cent or less. Warm air in the hive is forced over the comb surfaces by fanning bees and this same method may be employed by the beekeeper.

Water may be most economically removed before the honey is extracted. Warm dry air is driven through stacked supers. The rate of moisture removal will depend on the dryness of the air and the volume passed through the supers. The dryness depends mostly upon the number of degrees the air temperature has been increased. In general, cool air which has had its temperature increased will remove more moisture than air at room temperature which has only been slightly warmed. The efficiency of this system may be increased by permitting warm moist air to escape, providing a separate intake for fresh air. The warm air temperature should not be over 100° F. A unit operating efficiently will remove from 1 to 3 per cent moisture in 24 hours. In many cases honey which would grade as Number 3 may be raised to Number 1 overnight.

The pictures show the honey heating room at the Apicultural Department of the Ontario Agricultural College. The room is about 7'6" x 6'0" and has a capacity for up to 72 supers of honey piled six high. Hot air is supplied from a steam unit heater (similar to an automobile hot water heater).

Below—The extracting room at Ontario Agricultural College showing the drying room at the back. Right—Closeup of the drying room with staggered supers. Floorboards catch drip.





The heating unit is behind a false wall so the air is driven to the floor behind the plywood panel. Hot air escapes along an opening at floor level and rises up through the supers. Openings are provided behind the heater for the intake of fresh air from the outside or from the next room.

For handling, each stack of supers is placed on a floor truck mounted on four casters and staggered to allow free passage of air through the combs. The supers farthest from the source of heat are not warmed to quite the same extent as those closer to the panel. This may be overcome by removing the supers nearest to the panel for extracting first and moving the others forward.

The heater is thermostatically controlled to maintain a temperature between 90° and 95° F. Moisture laden air is allowed to escape through an opening in the ceiling, and there must not be any down draft through this opening.

Less elaborate methods are often used, but they do not operate as well.

Moisture removal may be more necessary in some seasons than in others, but at any time it is added insurance for the production of a quality product. Also warm combs will extract more readily than cold ones.

Melting Honey for Repacking

In these days of changing demand it is not possible to pack honey ahead of requirements for various container sizes, so honey is frequently stored in bulk containers and liquefied as needed.

The application of heat is the only way by which honey may be reduced from the granulated to the liquid state. Care must be used since too long an exposure to high temperatures injures honey.

The melting cabinet here described provides a safe and practical method of liquefying honey stored in bulk containers. The honey is allowed to escape from the chamber as soon as it becomes soft enough to flow, thus avoiding overheating. This honey will still contain many granules and must be further heated. A double-jacketed tank with an agitator is satisfactory. The remelted honey may now be handled just as freshly extracted honey.

The melting cabinet is made of several plywood panels assembled with screw nails. One-quarter-inch plywood sheeting is glued and nailed to both sides of a frame made of 1" x 2" lumber. The space between the two sheets may be filled with rock wool. The top and bottom panels are 74½ x 20 inches, the end panels 40 x 20 inches, and the back and door panels 77 x 40 inches. The door is hinged at the top and may be made to operate with a counterbalance.

The back of the cabinet is lined with sheet metal and the lower 2 inch edge is bent forward to carry the drip into a sloping drain pan which completely covers the bottom. The whole cabinet is supported on a metal stand so that honey drains directly into a double-jacketed tank.

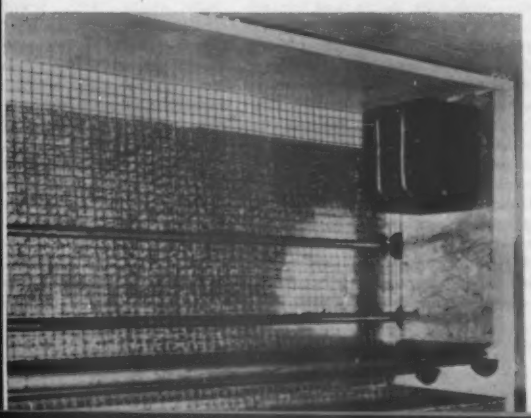
Cans are supported by two lengths of 1½-inch pipe with enough tilt to completely drain. To prevent large cores of solid honey from escaping from the cans and plugging the outlet, a 1-inch mesh electrically welded screen is held across the open ends of the cans. This screen is supported by two lengths of ¾ inch pipe which run across the back of the cabinet.

The heating unit consists of a 1000 watt electric fan heater. Air from the bottom of the cabinet is drawn up through a 2-inch baffle and recirculated through the heater across the top of the chamber. No outside air inlet should be provided. There is plenty of space for air circulation when the melting cabinet is loaded with honey cans. The heating unit is at the end opposite the honey outlet.

The cans are placed on the rack, the door closed and the heater turned on. A check may be kept on the temperature by inserting a thermometer through one wall of the cabinet. The temperature gradually rises until the honey begins to melt, but will not rise much over 135° F. until the bulk of the honey is drained away. After this the temperature will increase rapidly to around 200° F. Honey escaping from the outlet will be a temperature of about 100° F.

Although the cabinet may be operated satisfactorily without a thermostat, the temperature may be controlled by the installation of a warm air limit control such as is used in a hot air furnace. The upper temperature limit could be set at about 170° F. and the lower at 130° F. to prevent overheating.

Ten 70-pound cans of granulated honey at an initial temperature of 60° F. will take approximately 12 hours to completely drain into the tank. This operation can be carried out overnight. If a different capacity is desired, the heating unit and cabinet size should be of corresponding proportions.



Left—Melting cabinet ready for operation with double-jacketed tank in position under the honey outlet. Below—Inside of melting cabinet showing heating unit with baffle, screen and supporting pipes for honey cans.

Preparation of Bulk Honey for Market

by Robert B. Willson

New York City

THERE is something presumptuous about offering advice on any subject, especially to a large professional group, but perhaps thirty years of experience in the subject matter justifies to a degree this undertaking. It is at most intended to be a friendly chat between the commercial honey producer and the author to show the advantages of employing intelligent management in the preparation of bulk honey for market. Bulk honey may be defined as that which is packed in sixty-pound tins or larger packages, and the commercial honey producer as one who ships in carload or truckload lots.

There comes into the great City of New York each year many carloads of honey from various sections of the United States, principally from California, Florida, New York, Michigan, Minnesota and Nebraska. It comes for all the trade that uses honey including the bottlers and the bakers, and the manufacturers of candy, cosmetics, drugs, and tobacco as well as a goodly volume for export, nowadays under the subsidy. Based on the opportunity we have had to see the production of many beekeepers and learn the requirements of the various users, we believe it pays well over the years to use special care in preparing this commodity for commerce.

Honey is the world's finest sweet and as such should be prepared for market with the care that is its rightful due. However, there are more practical reasons. The producer who prepares his honey well soon gains a good reputation for his efforts and so his honey will be in demand with the buyer year in and year out, price support or not. In addition, well-prepared bulk honey automatically makes such honey eligible for many more outlets than otherwise which is to say that the demand for such honey is thereby increased and that means better prices. More on this later.

There's another reason. Uncle Sam in his generosity is helping us recapture our European market which was lost for honey during World War II. "Product of U.S.A." on a can or drum of honey means it is a bit of America going overseas. Each lot that is well prepared reflects well on us and our high standards of life under democracy. It is too important a matter to have it do otherwise.

Good preparation precedes extraction and includes such things as the thoughtful selection of materials for the smoker, and the applying of carbolic cloths with great caution. These items of care are important because honey is extremely sensitive to odors, will quickly absorb them and, what is more, retain them. Do not use oily waste or any other materials that give off an acrid or pungent smoke. Remove carbolic cloths immediately they have done their work. A striking illustration of this quality in honey can be found when steel drums are coated on the inside with a low grade of paraffin. The whole drumful of honey takes on the contaminated taste of kerosene.

There is much to do inside the honey house. The honey from different floral sources should be segregated and extracted separately. Since bulk honey is sold by sample, sampling can then be done with reasonable accuracy, or should the producer later decide to do some blending, he then can do that too with reasonable accuracy and uniformity.

Avoid the use of uncapping machines that scratch off the cappings and break them up into fine pieces. These are most difficult to remove and cause endless clogging of strainers when heated.

If there is a pump in the line, make sure it is well packed. Draw a sample at frequent intervals to make sure air is not being sucked in as a myriad of minute air bubbles in the honey will make it cloudy and such are almost impossible to get out.

Strain the honey clean, preferably so that it will grade U. S. Fancy or Grade A. Various strainers are available, or can be built, involving the principle of the coarse, medium and fine mesh, but to strain honey through the fine strainer it must be heated to flow readily. Probably the most needed piece of appartus in the honey industry is an electrical unit of low cost that will heat and strain honey. It is being worked on now and may be available by next crop time.

But why strain honey clear and clean when you may sell your honey to a bottler who will strain it anyhow? To prepare honey that may be used with satisfaction by the bottler only, is limiting your market.

The industrial user generally speaking today wants honey well-strained. The exporter must have at least a Grade C Certificate to comply with subsidy regulations and some of his customers in Europe are now asking for Grade B or better. These two fields are paying top prices. Even a quarter of a cent per pound is worth going after and once the equipment is installed, the cost of straining honey clear and clean is practically no more than not straining at all. Incidentally, because bottlers strain their honey is not to say they like it dirty. Some of the most exacting buyers we know are bottlers who insist on their deliveries being scrupulously clean.

A word about samples. Dealings in bulk honey between producer and buyer on the basis of samples is sound practice. It avoids misunderstandings because samples speak for themselves, that is, if the samples are accurate. If there is a marked difference in color, flavor or body in honey that is offered for sale, samples of each different lot should be submitted, otherwise serious misunderstandings could develop. For example, suppose a producer offers a car on the basis of one sample water white in color and the buyer in turn sells it to a bottler who wants that honey to blend with some dark honey. Suppose on arrival of the car, sampling reveals 25% just ordinary white. The bottler might reject the shipment, or at least the good faith of his supplier is impugned. If rejected, costs mount up and the buyer may want to turn the car back to the producer. The producer becomes disgruntled and so all are thoroughly dissatisfied with each other. Accurate sampling by the producer would have avoided all this in the first place which is not to say that he would have had to take less of an offer because the buyer may have had another customer here or abroad to whom 75% water white and 25% ordinary white would have been entirely satisfactory for his needs.

Differences in flavor and body or "dressed up" samples that are much cleaner than the actual honey, can all cause trouble too. Accuracy in sampling is essential to this business.

What about the used container? What other bulk foods go to market in used containers? Sugar? No. Flour? No. Shelled nuts? No. Dried fruits? No. Perhaps at times oils and shortenings, but always in a carefully reconditioned drum. Drums lend themselves quite properly to reuse anyhow, but the secondhand can which soon becomes battered and rusty is a menace to our industry, and is always making bad friends for us. Some day, when prices for honey are a bit better, we should ask to have the secondhand can banned.

This has been quite a chat. When next year's crop is in the making, pause to consider where your honey may go. It may end up with a bottler in New York, a baker in Hamburg, or a candy manufacturer in Rome, but wherever it goes, it will be best for all in our industry if it is well prepared.

Simplicity in Honey Handling and Packing

by Ira J. Bowers

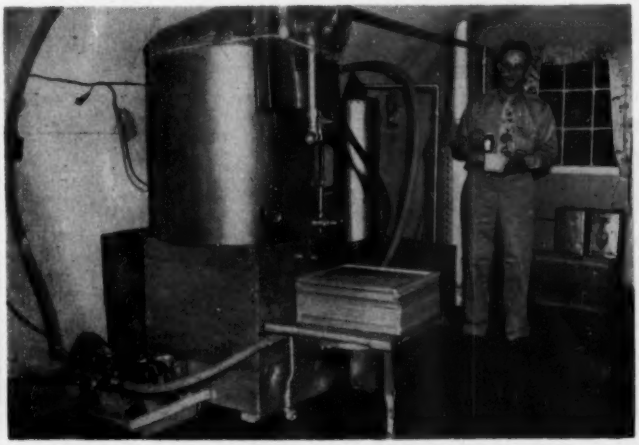
Decatur, Illinois

THE medium sized producer-packer must have a quality product to meet competition today and efforts to obtain that quality should start at the extractor. One of the most important things a producer-packer should keep in mind when selling at wholesale and retail at his home plant is cleanliness and neatness. An aid to this objective is simplicity in honey handling and packing. Those of us who produce twenty to thirty thousand pounds of honey yearly (comb honey, chunk and liquid honey, and process pack) and sell to the wholesale grocery and public, must keep simplicity and efficiency in mind when setting up our extracting and bottling equipment.

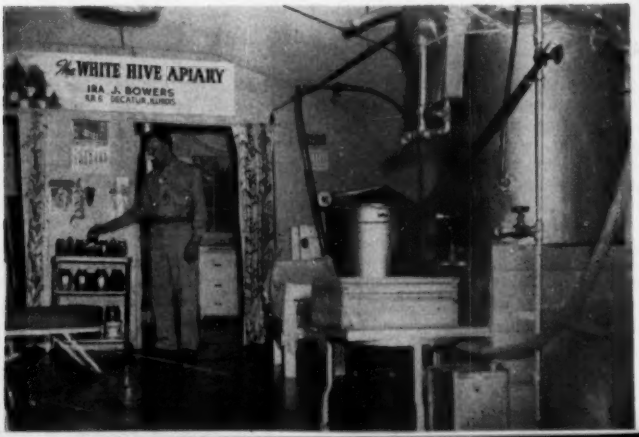
Lack of sufficient space in honey houses is the most common mistake made when building. The type of building, whether with basement or all on the ground floor, must be planned with the lay of the land. I like the factory, straight-line method of handling best. My building is Quonset style, 18' by 36' with 18' by 22' conventional style office and shipping room being added this fall.

The honey supers are unloaded into a room at one end of the building which is partitioned from the processing room. Supers are stacked crisscross so that air may circulate and excess moisture, if any, is removed with the humidifier before extracting; or in the case of comb

This handy table cart is kept filled with samples of honey to show to visitors.



Above—This picture and the one below show both ends of the processing room in which honey is handled by the "straight-line" method. From capping melter and extractor through the clarifier and bottling tank, the honey passes and is ready for the bottle. This honey house is a credit to its owner.



honey before it is cleaned and cartoned. Honey should be left in this room 4 to 10 days or longer according to its moisture content.

When ready for extracting, the supers are rolled into the processing room where the Brand capping melter and 12-frame extractor are located near the door. I use the 12-frame radial extractor as it is large enough to handle 10 to 20 tons of honey a year and doesn't take as much room as the larger and more costly machine. The 12-frame merry-go-round stands in the corner next to the extractor.

From the extractor the honey drains through a wire strainer into the medium-sized clarifier, is heated from 110 to 120 degrees and pumped through a three-quarter inch pump into the gravity filter, from which it flows into the heating or bottling tank. The fine particles of comb, pollen, and air bubbles or "foam" created by the extractor rise to the top of the clarifier, and by using a small pump with the gravity filter, which contains three 80-mesh cloths and one nylon 100-mesh sack, I get a highly strained honey which has eye appeal comparable to the high pressure method of the large packer without sacrificing flavor or mineral content of the honey. The filter and tanks are all of stainless steel which is best for honey which is heated to 140 or 160 degrees.

In a space of twelve feet, we have the honey ready for the bottle, filling machine or hand filler. For honey which is to be stored, I use 60-pound cans which, when filled, are stacked opposite the processing equipment where it is ready for bottling when needed. To cool the jars quickly after filling, I stack the jars in tiers on a table cart which is pushed in front of a high velocity fan. When cool, they are labeled and cartoned and rolled to the shipping room. Drip pans are used and the floor kept clean and polished. A show case is kept supplied with all samples that we produce and pack to show customers and visitors just what we have to offer, and if it is their first visit, we give them a small sample jar to take home with them.

I have packed a great amount of honey in plastic top specials, the little eight and nine ounce no-drip servers with various colored tops, also one-pound servers and many other styles, including small plain jars to be given as samples. By matching the color scheme of the housewife's kitchen with a colored plastic top container, I have made sales to people who said the family did not like honey and seldom bought one pound a year, but in most instances they have come back for a five-pound jar. One to two hundred pounds of honey packed in this way and sold at cost or given to prospective customers each year is good advertising.

The method described here, of handling honey from extractor to jar, would seem slow to the large producer with his big settling tanks and other equipment necessary to take care of a large volume of honey which he sells in 60-pound cans; but for the small honey producer, it is ideal, as he obtains by this method a high quality of honey to sell and thereby holds his customers.

Cleanup in Honey

by Wendell Shore

Los Angeles, California

"AW, Ma, do I have to wash my face again? I washed it when I got up this morning!"

Probably many of us have heard this complaint from our young offspring or have used it ourselves when we were younger. The need to emphasize cleanliness apparently starts in our youth, and there is no decrease even when we become mature though it must be admitted that the actual application of cleanliness, so far as our faces are concerned, is replaced by the application to other and perhaps more important features.

The honey producer who says, "Why should I strain my honey when the buyer is going to do it anyway?" is in much the same position as the small boy who apparently failed to take seriously the admonitions of the soap companies in their TV and radio broadcasts. The fact of the matter is that altogether too many of us are neglectful of following through with that extra measure of quality control which places a premium value on our product because we calculate that it is simply a duplication of an operation which will be conducted later.

The average producer turns out a thoroughly clean product within the limitations of his equipment and available help, but, within every industry, there are individuals or firms who accept only a minimum responsibility. It is toward this fortunately small group that the following remarks are directed in the hope that the need, more apparent now than ever before, for marketing a clean product will be pointed out in such fashion that the logic behind our remarks will be recognized.

There can be no argument with the statement that the world today involves competition to a greater extent than ever before. The age of specialization is here to stay. The manufacturer who fails to keep his product abreast of the times soon loses to his more resourceful and energetic competitors. By the same token, the beekeeper whose honey is not clean and whose containers are used and dirty is at a distinct disadvantage in securing a top price and a market for his production.

With honey recognized as being in "over-supply," the difficulties involved in selling to the trade an inferior production become, at once, apparent. The premium lots are naturally the ones most easily sold and most generally susceptible of bringing top prices.

Uncle Sam, in the person of the Department of Agriculture, has stepped into this surplus honey situation in an attempt to alleviate the troubles of our industry. Despite a certain amount of thinking to the contrary, Uncle does not give something for nothing, and certain strings are attached to the benefits to be derived under the features of the 1952 Honey Support Program. Reference is made to the necessity for honey being clean enough to obtain at least a Grade C Certificate whether the honey is placed under loan features of the Program or if it is exported under the Export Subsidy Program. In either case, the honey must be at least clean enough to pass through an 18-mesh screen at a temperature of not more than 130 degrees Fahrenheit. An easy way to determine approximately if your honey complies with this restriction is to pass it through a piece of window screen which is generally about 18-mesh. If particles of foreign matter are left on the screen, something is at fault in your operation.

In 1934, the writer sold four carloads of bulk California honey to an eastern buyer. Upon arrival, all four cars were rejected because of the presence of minute foreign particles in the granulated honey. The complaint was serious enough to justify an immediate trip East to attempt to remedy the situation. Examination of the containers disclosed the fact that there actually was a surface coating of small wax particles and portions of bees' anatomy. It developed that the method of straining the honey employed by this buyer failed to completely remove this foreign matter and the rejection of the deliveries resulted.

The difficulty was overcome quite simply and effectively by making a minor change to improve the buyer's straining method and, although not

completely happy, he was willing to accept the shipment. This example is cited simply to indicate that a small change in established procedures may work wonders in the cleanliness of the ultimate product.

Comment should be made in connection with the use of five-gallon cans that have been used several times previously. Our firm has received many shipments of honey in used containers that we and our customers have both judged to be satisfactory. However, it should be noted that these cans have been thoroughly washed and dried inside and out, and the liners in the caps have been replaced where necessary. Unwashed cans, or cans that have not been thoroughly dried, invariably show a black ring around the inside of the screw neck. Examination of a honey shipment in used cans, not thoroughly cleaned, by a critical buyer is apt to result in an unfavorable reception because of the psychological effect that these dirty black rings induce, even though the honey itself is in first-class condition from a quality standpoint. The reaction of the buyer may be much the same as your own thoughts if you had breakfast in a restaurant and found that the bowl containing your cereal had obviously been previously used for soft-boiled eggs.

Whenever possible, the use of new containers for a quality product, such as all honey should be, is thoroughly recommended. The use of rusted, dented containers, not thoroughly cleaned, can ultimately result in nothing but adverse criticism.

It might not be amiss at this point to suggest that the honey industry investigate the possibility of packing honey at the extracting plant in standard 55-gallon drums which could be reused after thorough cleaning and drying.

While we have dwelt primarily on the desirability of honey being free from foreign material and in new or first-class used containers, there are other requirements in the quality control of honey which should not be overlooked. Such items as the body or density, the freedom from turbidity, and the absence of unfavorable flavors are all factors that should merit the close attention of the producer.

Furthermore, from a buyer's standpoint, it is highly desirable that a producer keep track of his production in such a way that whenever a change is noted in the color, flavor, or body of the honey being extracted, it is set into separate and distinct stacks, readily identifiable.

We are pleased to say that it is the exception rather than the rule when we obtain dirty honey, but it should be the goal of the industry from a producing angle to put up a product as nearly perfect as possible. If the beekeepers who produce a quality product will pass on to their neighbors, whose honey is of inferior quality, some of their know-how, much good will be accomplished. The extra effort involved in producing clean honey is not particularly great, and a certain amount of care at the extracting plant undeniably pays dividends from the standpoint of price and in creating a better demand from the trade in general.

Perhaps the little boy with the dirty face will some day grow up to become a beekeeper and realize that honey, like faces, appears to best advantage when clean.

From Hive to Jar

by Leslie Henry

Norfolk, Nebraska

WHEN the beekeeper finally awakens from his dream of the large crop that he had hoped to produce, he is somewhat startled. The reality of the honey crop he has garnered faces him and about the first thing he thinks of is "How am I going to get rid of the stuff?"

Too often with the small producer, that is just what happens. At least, judging from the many packages of "stuff" that we have seen in a number of states on the grocery store shelf. If he could only remember that what he has is HONEY, and that instead of getting rid of it the thought should be "I have the finest product in the world to market."

In thinking of packaging honey the best place to start is at the beehive. Handle the honey that you take off as efficiently and well as the bees have in gathering it for you. How many bee legs or particles of wax or grains of pollen did you ever notice in a cell of honey? In our

anxiety to get a lot of pounds, we should use a little common sense, and not remove honey until it is thoroughly ripe. With these precautions in mind, let every step in handling honey be measured.

Remembering that bees do not gather honey when it is zero nor when it is boiling hot, we should give some thought to temperature. It is certainly a pleasure to handle honey when the bees are in a heavy honeyflow. One of the reasons is temperature, do not forget it. We should also remember that when the bees have the honey as they want it, they cover it.

The honey package should have appeal. Containers that best suit your consumers should be considered. Above all, neatness and appearance go a long way in helping market your package. A thin glass container, with an attractive label is a must for the small producer-packer.

It seems that there are about as many ideas on how to pack as there are packers. Perhaps the "how" is not too important. I have seen bees make just as nice honey in an old keg as in a nicely painted modern hive; they accept what is at hand, and make the best use of it. Whatever system we may follow, let us make the best use of it.

One of the first things to remember in extracting honey is the abovementioned cleanliness. The next thing is to keep the honey as free of air bubbles as possible. This is far easier than removing them after they have appeared. Never allow honey to fall into the container, use a float or a sloping trough — this will eliminate many bubbles.

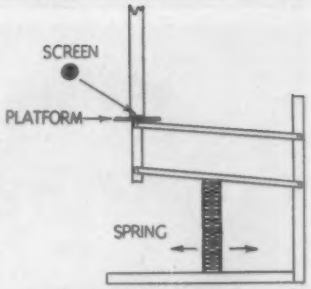
The next step, after we have selected a good grade of honey, which is free from foreign material, air bubbles, and so forth, is to have it in a liquid state. Since all honey is not processed at the time of extracting, some kind of heating equipment in which to liquefy the honey is necessary. The size will depend upon the volume of honey to be processed in a given time, whether one can at a time or several hundred. Heat bulbs may be placed underneath a can laid on its side with the opening down, and then covered with a pasteboard box which has a hole cut for the opening of the can to stick through. In any case, the honey must be allowed to flow out and away from the heat as soon as it becomes liquid, using the same precaution in regard to bubbles. If at all possible, keep honey in covered containers to help retain the aroma.

Now comes the preheating or most important step in the handling of honey. Without discussing all the subject, two things are to be noted: straining honey and delaying its granulation, and at the same time avoiding discoloration. For the inexperienced the flash heating method perhaps will give the best results — heating the honey quickly, straining, bottling, capping, and then cooling. Heating may be accomplished by pumping honey through a coil that has been submerged in water, the temperature of which is controlled. The same results may be obtained by a heated trough over which the honey passes. Temperature of honey is regulated by rate of flow, as well as the temperature of the heating device. This also may be simple in construction, or elaborate with thermostatic control, and so forth.

Straining or filtering may be accomplished easily with a sack made of white outing flannel or other suitable material the size of the container from which you bottle the honey. Another method is to have several smaller sacks, supported by heavy welded wire containers, one inch or less in thickness, as a large surface gives less trouble with clogging. Keep straining material submerged in honey until close of run and little difficulty will be experienced.

In filling containers, fill from the bottom up. This may be accomplished with a quick opening valve, to which is attached a length of pipe or tubing long enough to reach the bottom of the container. A piece of screen wire soldered to the outlet of the pipe or tubing will help with the "last drop" problem. Either a length of hose attached to the valve, or better still, moving the container down as it is filled, helps keep out air bubbles. A small movable platform may be attached to two arms, which are in turn anchored to something, and a coiled spring may be mounted in such a way that the bottom of the container is just against the pipe. As the honey flows, the weight moves the container down and the honey level is at the end of the pipe until the container is full. Seal containers quickly and tightly. Do not forget to cool them as quickly as possible to room temperature.

If you have been careful, you have a package free of cloudiness and air bubbles. Temperatures should be measured and not guessed at. Personally, I like to seal the container with the temperature of the honey no lower than 160° F. We have packed honey and had no sign of granulation for eighteen months and sometimes much longer.



The bottle filler described in the article.

This gives you a product to sell, not one on which you must cut prices. The seller wants volume or turnover. We have many times placed our package alongside others on consignment with the assurance that it would move or we would not expect them to keep it. Eye appeal seems to go a long way; this with many other things moves honey. Service should not be forgotten, for if it is the other fellow gets the business.

Bee Book for Bee-ginners

Leslie H. Little, State Apiarist for Tennessee, and L. D. Wallace are authors of a 48-page booklet with the above title. Well illustrated, the book deals generally with those phases of beekeeping most often perplexing to the beginner. The book, distributed by the Tennessee Department of Agriculture at Nashville, should be of special use in promoting better beekeeping in that state. Mr. Little particularly stresses that indifference and carelessness are prime factors in lack of success with bees.

In an introductory statement, Edward Jones, Tennessee Commissioner of Agriculture, recommends modern beekeeping and states that "successful crops, luxurious pastures, profitable orchards, beautiful flowers, would hardly be possible without the cooperation of these tiny industrious insects."

Honey Dresses Up to Go to Town

by Mr. and Mrs. Ted Booth

East Grand Rapids, Michigan

AS a practical addition to our wartime victory garden, a good friend and neighboring greenhouse keeper, who had previously helped with the planning of our patriotic venture, suggested a hive of honey bees for pollinating purposes. And along with the suggestion of honey bees for better garden results, this sage of the hothouse leaf lettuce and tomato industry volunteered a few short words of sound wisdom which probably led eventually to our merchandising a fancy packed jar of fine Michigan strained honey to the discriminating food trade.

"Never give your honey away," admonished this philosophical neighbor with the green thumb. "If you give your friends your honey, you will be expected back with more each year, whereas, if you sell it to these same people, they will consider themselves favored, and appreciate it just as much." Truer words were never spoken. The fun came in making sales, and the honey proved to be considered of such excellence that those to whom it was offered appreciated being on the "preferred" list, particularly since at that time sugar was scarce and honey in great demand.

All this occurred a decade ago, in the early days of the war. Sometime during that first season it was agreed that this was a partnership, and that "Ted" was to be in charge of "Production," and "Mrs. Ted" in charge of "Sales." The arrangement still stands, although with the expansion program the "Sales Manager's" responsibilities have become more involved, since the capacity of our own small five-colony bee yard was overtaxed, and the finest grades of other producers' honey were necessarily utilized.

In the first few years, while getting the "feel" of this new and creeping enterprise, sales were strictly retail on a house-to-house or phone-to-phone basis. Then came the day when our "Sales Manager" attended an all-day meeting of Michigan beekeepers at Alma College, Alma, Michigan.

"The trouble with the honey business," Mrs. Ted heard an agricultural college professor declare, "is that in all too many retail stores, honey still is kept in pails or bottles out of sight on back shelves, available only to the addicts who ask for it by name."

Summarizing an hour long treatise on the subject of modern selling, the professor sermonized: "What we need is improved, modern merchandising methods, better displays, more eye appeal, more sales appeal, more glamour."

That night Mrs. Ted slept hardly a wink. She lay wide-eyed and wide-awake, dreaming of ways to meet the professor's challenge, for here was a man who had lucidly described an issue which had been uppermost in her mind for many months.

"A glamour pack! Ah, that's what we must have!" she fervently concluded as in the darkness of her room she visualized an irresistible, mouth-watering honey pack, and honey display.

Then came hours on end of trial and error, trying this combination of cellophane and bright colored ribbon, and then that. There was a

search for a suitable container, which would be available out of stock, and the Hazel-Atlas globe-shaped jar was finally decided upon. Amber-colored cellophane blended best with honey, and, cut in six-inch squares, was tied down over the top with bright, golden-hued ribbon in a multiplicity of bows. The square-cut cellophane tied down as it was with the ribbon gave the effect, we thought, of bee's wings in flight. The final touch was the addition of an apple blossom sticker on the face of the globe, colorful, decorative, and the official flower of the state of Michigan.

As could happen only to an inexperienced amateur, Mrs. Ted, in the role of sales manager, launched her campaign with the new glamour-packed honey jar by making her initial call on the brand new, $20,000,000 Wurzburg Department Store. The timing proved to be perfect. Mr. Troy, manager of the epicure department, was as anxious to find something new, particularly a speciality of the countryside which would sell for less than $1.00, as Mrs. Ted was desirous of getting this great, new store to carry her line. Harmony reigned from the start. Wurzburgs stocked the honey in liberal quantity, and advertised it with an illustration of the jar in the newspapers.

The rest, as far as local distribution was concerned, was simple. Most of the leading grocery stores, delicatessens, and restaurants were glad to fall in line.

"People who never bought honey before, now are consistent buyers of this new brand," a storekeeper was overheard to remark to another tradesman. In stores and restaurants catering to the important Michigan tourist trade, on display at candy stands, baked goods counters, or handy to the cashier's desk, the attractively packed honey jar proved to be a popular souvenir-of-the-country for gifts to be taken back to relatives and others left at home.

Paraphrasing the familiar sound of the working bee, the trade name "BUZZ ABOUT" was adopted, and the partnership proceeded under the trade name BUZZ ABOUT HONEY PRODUCTS COMPANY. Originally, white clover honey was featured exclusively, and the bees of Kent County produced a brand of white clover honey of a quality, bouquet and flavor which had much to do with getting the venture off to a good start. Shortly, however, opportunities for diversification were presented, and along with the white clover, northern Michigan wild raspberry (a real epicure's delight), blueberry and basswood honeys were added to the line.

With the approach of the Yuletide Season an opportunity was recognized for a special Christmas pack, and the jar was decorated with red instead of amber cellophane, and tied with red and green ribbons in place of the conventional gold. And the apple blossom was replaced with a metallic red and green holly sticker. The 12-ounce jar, selling in the stores at 59 cents (substantially above the going rate for honey in the general run of stores) proved to be a successful item for the Christmas trade. This holiday pack has proved since to have innumerable variations throughout the year with jars decorated appropriate to Valentine's Day, George Washington's birthday, Easter and Independence Day to list the most obvious which come to mind. It has been the means of moving quite a number of additional cases throughout the year, and it is believed to be a trade offering increased possibilities for the future.

Honey merchandising has been found to be a mighty sweet business. Without an exception competing beekeepers have been friendly and encouraging, exhibiting a remarkable demonstration of sincere interest and good will. The retailers have been surprising in their cordiality, and readiness to cooperate. Fields of public service, such as trade papers and television, in particular, have evinced a desire to publicize anything available relating to the life of the bee, or its health giving product. On two occasions Mrs. Ted has appeared on television programs where she was interviewed, and discussed this subject so near and dear to her heart. And, finally, the great and ever-increasing interest of people generally in the subject of beekeeping, and in the multitude of uses of honey as a food, and for cooking and preserving, is in such evidence that it would appear there is an unlimited field for development of the ancient and ever-honorable honey industry. It has been most gratifying to discover the friendly interest of brother beekeepers; it is believed that by an ever-increasing united effort toward a better informed public, great new markets are certain to be revealed.

Two samples of the "Glamour Pack" (see also picture on our cover) which was chosen after much thought and experimentation. With different colors of cellophane and ribbon and appropriate stickers this eye-catching little jar has been made a specialty seller for special days around the calendar.

Chunk Honey Packing

by Lee R. Stewart

Newport, Indiana

WE do not know all the answers to chunk honey packing, in fact we know but few of them, but if in these lines you can find one small suggestion that will enable you to do a better job of packing, we will feel well repaid for our efforts. Though chunk honey was the original commercial honey and has been produced hundreds of years, the pack you find on the market today is pitiful in comparison to other food products.

A nice, attractive pack begins in production. You must have the right kind of honey produced in the right kind of conditions. Granulation is the big problem, especially in the cool and cold climates. There are some honeys that do not granulate readily but unfortunately they are not suitable for a nice, attractive pack. The clover honeys—both for chunk and filler—are the best, and also the quickest to granulate.

Customary pack of bulk comb in jar with surrounding extracted honey. These are Stewart's actual packs.

One big reason for the poor packs is the kind of honey used—honey improperly produced in comb which has empty cells or is travel stained, water soaked or tough. Empty cells will melt down when you run in your hot honey but a few uncapped cells full of ripe honey will add to the attractiveness of your pack. But you don't want any green, partly filled cells.

Another detriment is the various sizes and shapes of containers used, a situation more or less influenced by local conditions and the availability of supplies. In 1950, 66 per cent of our sales was a screw top one-pound tumbler; 33 per cent a two-pound modernistic, wide-mouthed jar and 1 per cent the square 2½-pound and the 5-pound jars. In 1951 the tumbler comprised nearly 100 per cent of our sales. The tumbler fits into the present day method of buying from meal to meal; the grocer, who is volume crazy, prefers the larger packs but they won't sell in competition with the smaller jar. We have seen honey packed in everything from jelly glasses with paper tied on top for a lid to coffee jars and fruit jars with almost as much honey on the outside as the inside. And, of course, the big reason for the unsightly packs is the method of packing.

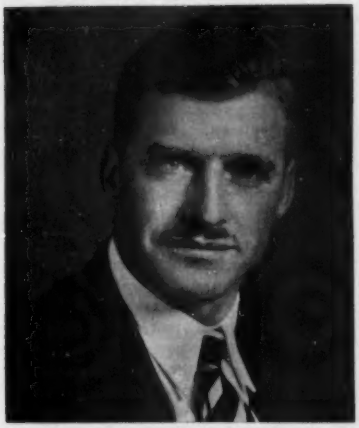
Packing proper may be divided into two methods, visual and technical. Anyone can pack the perfect

visual pack; the perfect technical pack is yet to be developed.

We use the standard 5-inch shallow frame chunk produced with the same care and technique used in section honey production. It cuts perfectly for the pound tumbler. A regular chunk honey cutting box or pan is used. Our frame of honey is laid on the hardware cloth that fits over the drip pan and with a thin, stiff bladed knife the honey is cut out and the frame removed. Some kind of a hot knife would be better as cold combs will sometimes break when cut by a cold knife. All around your frame of honey will be a "heel" or tough rim of comb. This is trimmed off and put in a lard can with other scraps to be salvaged later. We next cut our chunks just large enough to fit snugly but not too tightly in our jars. The 5-inch frame cut crosswise is just right for our jar and a full comb will cut nine pieces. The chunks are placed in jars as cut and passed on down the line where they are filled with 130° honey that has been heated to 160°. It is not safe to use honey much hotter as it will melt the comb. Seal tightly and cool before casing; if cased hot, the comb may jam together. Before cutting, the comb is inspected for pollen, pollen specks, propolis and other specks. The pack is also carefully inspected as one tiny speck will loom up as big as a mountain. Some minor specks can be removed from the pack with a long bladed knife. If they can't, the jar must be re-packed. The inserted chunk should not be broken nor bruised and should extend from top to bottom of the jar. Of course, other size jars will require a different type of cutting. Some packers like a two-piece pack on the supposition that people think they get more for their money. We think the snug-fitting, free-swinging, one-piece pack more attractive and a better seller.

The above is the short cut, economical method of packing chunk honey and as such is recommended for the small packer. In the Midwest this pack will remain liquid 6 to 8 weeks, a time factor that will determine the size of your sales. It is strictly a small territory pack and one that should be serviced regularly. No effort has been made to eliminate the possibilities of granulation of the loose honey exposed in cutting or any drops that have gotten on your comb in the various stages of handling or the crystals that are always present in the air of your honey house.

For the bigger, far-flung markets, a more technical pack is necessary. In addition to all the precautions of the "poor man's pack" one should use honey that has been removed with bee escapes so than any drippings from burr combs, and so forth, may be cleaned up by the escaping bees. The packing house should be air-conditioned to eliminate floating crystals. Honey chunks should be trayed and oven heated under vacuum at 130° for 16 hours to drain off all loose honey; and filtered honey should be used as a filler. This pack will remain liquid 6 to 10 months. An outfit to do all this will cost several thousand dollars and is definitely out of the question for the small packer. So, for the good of the chunk honey industry, we believe the small producer should either limit his territory to what he can properly service or sell his chunk to the packer who is equipped to market a top pack. Producing some 400 supers of chunk, we pack some and sell the balance to other packers. We sell the supers as well as honey, and buy back the empty supers and frames at the same price.



Honey Specialties

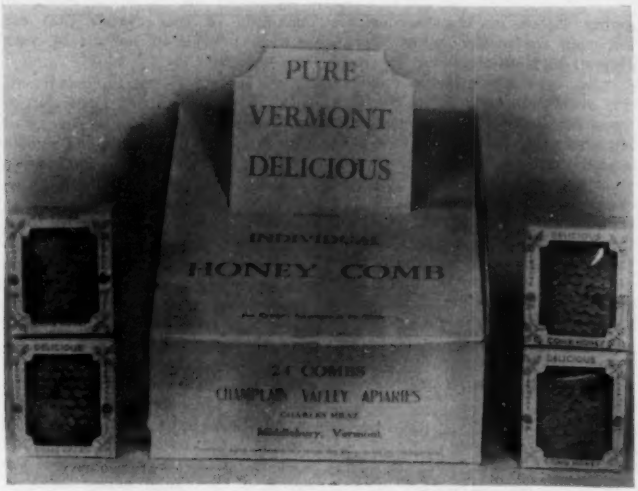
Charles Mraz

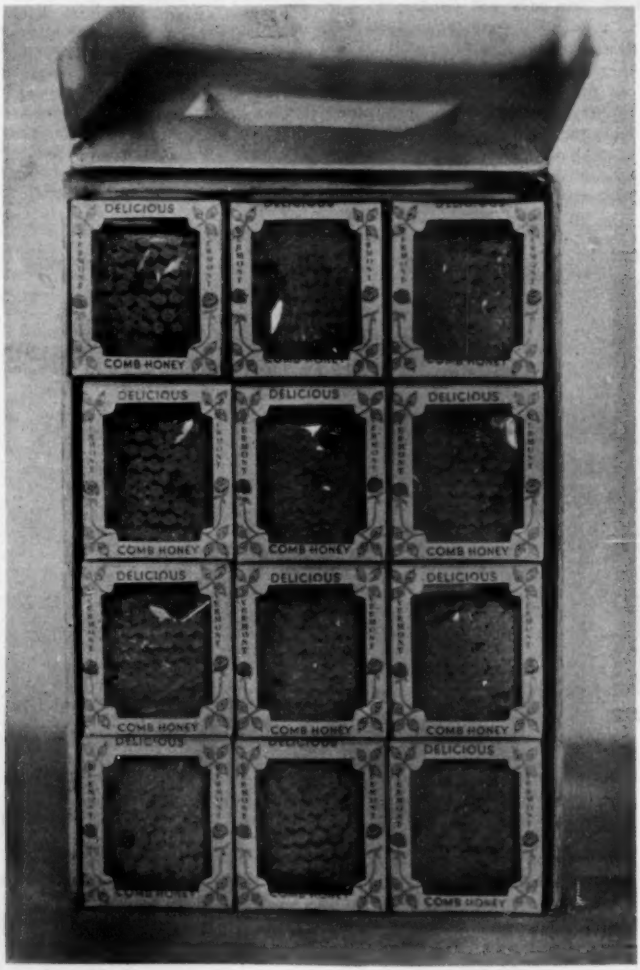
Middlebury, Vermont

The comb honey pictured on the next page was sent by Charles Mraz, Champlain Valley Apiaries, Middlebury, Vermont. Cutting comb honey to different sizes is not new but this is the first time we have seen comb honey cut to what might be called an individual size, wrapped in cellophane carefully to contain drip and packaged in individual cartons which in turn are packed in a large counter carton for stores.

Previous packs that have come to our attention have been larger than this and the majority of comb honey produced in bulk frames and cut for wrapping are either half section size, full section size, or are cut to a size which will pack satisfactorily in glass with extracted honey, as described by Lee Stewart in this issue.

There is a need for a small individualized piece of comb honey and





it should have many markets. It should be of interest to restaurants, hotels, and specialty stores and no doubt would go equally well on the regular market along with section comb honey, bulk comb in glass and the usual packs of extracted honey in various sized containers to suit customer demands of the particular vicinity.

We have no details from Mraz about how to cut and pack this product. A box was sent by him to us and the pictures were taken here to use in this issue.

Another specialty comb honey product is the small piece of comb honey dipped in chocolate which has been used by some producer-distributors with a fair degree of success.

In spite of all our efforts to popularize liquid or extracted honey, there is and always will be a demand for comb honey in the usual wooden section when it is produced as a quality product and put up in a quality manner. There is much interest in comb honey, however, which stems from the fact that many consumers in towns and cities cannot handle an entire section of comb honey satisfactorily. Even with those familiar with honey and its use, a full section, if not eaten by the family in one or two meals, will often lay over and sometimes, because it is pushed aside one way or another, will eventually not be used at all. Certainly the full section has little place in food establishments. Such places need and will frequently demand only the smaller sized packs of comb honey in one form or another.

Perhaps one of the difficulties of handling the specialty pack has been the fact that the actual preparation of the honey for the trays entails much more time, attention, and care and perhaps more expense than honey in its usual form whether that be glass or comb. Any highly specialized product, particularly in small amounts, presents quite a packing and distribution problem.

The top picture shows the Mraz specialty pack of small cut comb honey in the counter display box. The bottom shows the top layer of the 24-piece box with the top of the box removed.

"Honeysuckles"

by Henry Cobbs

Little River, Florida

Here is an interesting account of the growth of a honey candy business. This delicious confection comes in the neat and colorful tin box illustrated, along with a little booklet of several pages in which "Honeysuckle Sue" tells important facts about bees and honey. Ed.

FOR over fifteen years I had tried to perfect a candy with a liquid honey center but was unsuccessful. I appealed to other manufacturers of confections everywhere in the United States but they all came up with the same dead end. First, there wasn't any known equipment that could produce a perfected product such as I envisioned and second, American confectionary technologists didn't know how to produce it.

In the meantime, we made and sold a so-called honey filled candy for a great many years under the name of "Honeysuckles," but the more our customers praised the product, the more determined I was to produce a honey candy that would have all the desirable features that I had been striving for. These were essentially, a hard shell but a thin shell in a size that would not be too big for either a child or an adult to keep in his mouth. The center needed to be filled with honey in a liquid form, not a honey jelly. Furthermore, the outer shell wanted to contain some honey and have an intriguing palatable flavor that would lead into the center with a burst of the liquid honey as a climax.

It was only several years ago that by pure accident I met a refugee from Europe who said he was a candy manufacturer. I discussed with him my "dream candy" and much to my surprise he said he could produce it. The experiments that followed were lengthy but we sent to Europe for certain equipment and my refugee actually produced for me the perfect honey-filled candy that I had tried for so many years to achieve.

The result today is Cobbs "Honeysuckles," and the way the product is meeting with consumer acceptance, as well as the praise heaped upon it by America's leading food editors, justifies all of the time, effort, and expense we devoted to produce it. There are other candies that we are planning that will use a great deal of honey in their formulae.

Honey is a product that appeals to people of all ages and sexes. In my opinion, as a sweet and as a food it has never been sufficiently exploited. Whether in its natural pure liquid form, in confections, in baking or to take the place of sugar, in every way honey has a potential of consumption that would truly rival the use of sugar if the industry itself had the farsightedness and the courage to spend time, energy and some money to acquaint the American people—yes, the entire world—with this wonderful product.

Cobbs "Honeysuckles" is one of the best honey confections we have ever tasted. They delight the eye as well as the palate, with their wrappings of gold paper and cellophane. The candy itself is honey-colored. The tin box can be used in many ways after the candy is gone.

Honey Candies

by Ellsworth A. Meineke

Arlington Heights, Illinois

Mr. Meineke did not send us his picture. He says, "No one would look at it when they can look at the girls." Here is a visitor to the candy shop watching Mr. Meineke's sister, Mrs. L. L. Kipp dipping chocolates while Mrs. Meineke cuts honey jelly for dipping at the table. Finished chocolates are in the racks at the right.

HISTORY. The idea of honey candies is far from new. Honey confections go back as far as recorded history. Paintings in ancient Egyptian tombs refer to the making of honey confections with honey, dates, figs, and nuts. "Wafers made with honey" are mentioned in the Bible as "manna"—a name given by the children of Israel. Cane, beet, and corn sugars have taken over in the candy industry, much the same as in the American kitchen and on the dining table. Here and there a few small and large candy manufacturers have continued to make a few varieties of honey candy.

Opportunities. There are many success stories in the candy business and a very few in honey candy. The usual rule is not a get-rich-quick scheme but rather one of slow and steady expansion. Success in a candy venture requires many of the same qualities that are found in a successful beekeeper and honey salesman; attention to details, cleanliness, willingness to work, and a desire to experiment to make something better with less effort. Opportunities are really limited only by the candy maker's ability, imagination, and determination.

Many of the materials that go into candy like chocolate, nuts, fruit, and cream, spoil easily and even the finished product will not keep as well as honey, so the honey candy business offers little to the careless beekeeper. For the beekeeper who has the qualities necessary or has a wife or daughter who has them, the making and selling of candy fits in well with honey. In hot weather when the beekeeper is busiest with the bees, the demand for candy is light. When the bees are ready for winter the best candy selling season comes with the holiday season—Thanksgiving, Christmas, right on through Valentine's and Mother's Day. The feminine touch is a distinct advantage in such things as packing attractive containers and decorating the salesroom. Opportunities are unlimited in using one's imagination in developing new, different, and unusual candies and packages.

Equipment. A honey candy business can be started in the kitchen with a comparatively small outlay of cash as many items such as stove, pans, bowls, beaters, etc. are usually available. An accurate scale will probably be the most expensive item needed. Production with such a setup is necessarily quite limited. It is sufficient to test out ideas and markets and make a small profit.

To get into production commercially brings on new problems. The formula that gives a perfect candy in small batches in the kitchen will usually have to be modified for large ones of fifty to a hundred pounds as the chemical actions in cooking vary with the size of batch and equipment.

On the whole, commercial candy equipment is better made and more expensive than the usual extracting and bottling equipment used by beekeepers. A 2-horsepower, 4-speed mixer and beater of eighty quart capacity will cost about $1500, depending on the number of kettles and accessories. Chocolate melting equipment will vary from a couple of dollars for a double boiler to use in the kitchen, up through a few hundred dollars for small power machines to many thousands for the larger and more efficient machines. A power driven open-fire cooker costing $1000 to $1500 will take care of most any cooking a beekeeper would care to do.

There are so many kinds of candy that it is impossible to list all equipment needed. The mixer, chocolate melter and open-fire cooker are the basic equipment needed for a large variety of candies. Cutting and wrapping machines are available for those who need them. Chocolate may be cooled in the kitchen refrigerator to start with, and later in a larger refrigerator or a regular chocolate cooling tunnel.

To make and store most types of honey candy during summer weather will require a room cooler which will not only keep the temperature at the correct level, but also dry the air. This is a most important item

with honey candies as all beekeepers know honey will draw moisture from humid air.

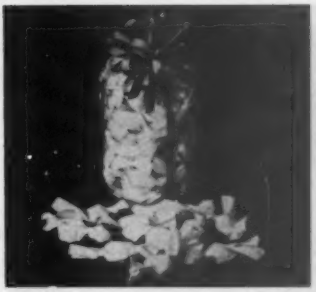
Making honey candy. The success of a honey candy venture will depend largely on quality and originality. The recipes of the American Honey Institute and candy books should be studied for ideas that can be adapted to your use. Most recipes will have to be modified for your use with honey and sometimes even equipment will have to be changed or specially built. At first glance this may seem a disadvantage, but it makes it difficult for someone else to duplicate what you develop.

Here is a little trick used by those who want a chocolate coating that will be hard for competitors to duplicate. Buy coating from two or three manufacturers and work out a blend that goes well with the centers you make.

A real honey candy should have at least 50% of honey for sweetening and 100% is much better. To many, any product made with honey seems like a good outlet for off-grade honey that does not look or taste good alone. Nothing could be further from the truth in connection with honey candies. Always use the best honey you can produce or buy, for the particular candy you are making. The same honey may not be the best for every candy you make. Honey candy is going to cost more to make than others, so it must be sold as a quality item, and to get quality the best must be put into the product.

Conclusions. The making and selling of honey candies requires considerable equipment, time, and money to develop, much patience and a lot of work. When a satisfactory product is developed it is a great aid in leveling out the honey business through the year.

Often, people who will not eat honey in the ordinary ways will enjoy honey candies. Most people eat candy more often than honey and use candy as a gift. The American people are buying more and more of their foods ready to eat, so if you are having trouble selling your honey at 25c a pound retail, why not try putting it up in cookies, cakes, salad dressing, candy, etc. and get a dollar or more a pound? When we beekeepers produce more honey than we can eat, we have a responsibility to see that we create a market for our surplus honey.



Gift Packs

Meinke issues a letter to customers in a four-page folder. In front is the letter and the other three pages have pictures and descriptions of his products. These pictures are from his folder. At upper left is a picture of honey kisses made entirely with honey and skimmed milk individually wrapped in moisture proof cellophane bags. At top right is the five-pound family box of candy with a complete assortment of chewy honey kisses, soft and chewy honey chocolates, and rich, creamy, honey caramels. The drip-cut container shown at the center left is put up in a fancy box. He also packs pound jars the same way. The center right is the ten 9-oz. jars of honey from mixed sources, buckwheat, raspberry, clover, tupelo, blue vine, etc., a highly specialized box. At lower left is a box of honey and candy combination, with drip-cut server, two 9-oz. jars, and two and one-half pounds of a complete candy assortment.

Often we have heard that honey markets are poor because honey is not standardized. Bosh! The flavor comes free to us when we produce honey. Millions of dollars are made on flavors every year which are sold to candy makers, bakers, ice cream manufacturers, and so forth. You cannot please everyone with one flavor so just think what we can do in making unusually good-flavored candies and other products by the ingenious use of honey of various flavors.

Honey candies offer an opportunity to use substantial amounts of honey and make an ideal product to sell alone or in gift boxes with other honey products and honey in all forms and flavors.

Sources of Information. For recipes contact American Honey Institute, Madison, Wisconsin, or candy books in your public library. For candy supplies look in the classified telephone directory of the nearest large city under "confectioners' supplies." For machinery use the same directory and look under "confectioners' machinery."

We sell honey candies only at retail so that people will have to come to us for our particular kinds of honey candies. We are not equipped to sell wholesale and it is against our present business policy.

Walter Diehnelt, Sr. (left) and his son "Buddy" examining a comb from one of their colonies.

Gift Packs

by Walter Diehnelt, Jr.

"Honey Acres"

Menomonee Falls, Wisconsin

Both Walter (Bud) and his father, Walter, Sr., are very busy people. They sent this material to us in the form of a questionnaire. Also sent us the package of gift-pack honey and honey products shown here. From this we have prepared the material which follows.—Ed.

WHEN it comes to producing and distributing honey in a highly efficient manner, there are few that can match the work done by the Diehnelts at Menomonee Falls, Wisconsin. Bud Diehnelt, in the September issue, page 375, tells about the effect of good honey displays in selling honey. Some of their packs used in stores are shown grouped on shelves surrounding a hive with a window at the top which houses an automatic picture machine to tell the story of bees and honey in fourteen colored slides. This display fits the end of a food island in several different stores and is moved from one to another.

This time we wanted to know about their gift pack which goes to a large mailing list particularly during the Christmas holiday season. In the pack are candies, hand dipped; a box of honey candy; a drip cut package of extracted honey; a carton of candied honey; and a carton of honey-apricot marmalade. At one time or another we have had samples of these products. They are first-class, fine in everyway. In addition, they include a book of new, favorite honey recipes from American Honey Institute.

In our inquiry about this gift pack, we asked questions which are answered as follows:

"Do you consider the gift pack an adjunct to the main volume of sales?" "Yes, the gift boxes sell best through the mail and are a very seasonable item and so they do not constitute our main sales volume. We offer a large variety of boxes to meet various prices and consumer demand."

Then we asked, "Do you find a complete gift package better than separate itemized packages? Does the gift pack lead the sale of the separate items?" "One five pound pail of honey neatly wrapped and tied with gay ribbon becomes a holiday gift that is quite inexpensive. Just candied honey or honey candy is often sent by one person to another as gifts. Many customers reorder the separate items after receiving the complete package."

"Is it not true that the gift package is a steadily growing distribution business over a long period of time?" "True, but many companies that pack what might be called specialty boxes are not able to continue marketing successfully without serving the market also with items customary to the trade. This does not mean that a company offering a top quality box at a fair price cannot be successful. It depends on how it is done."

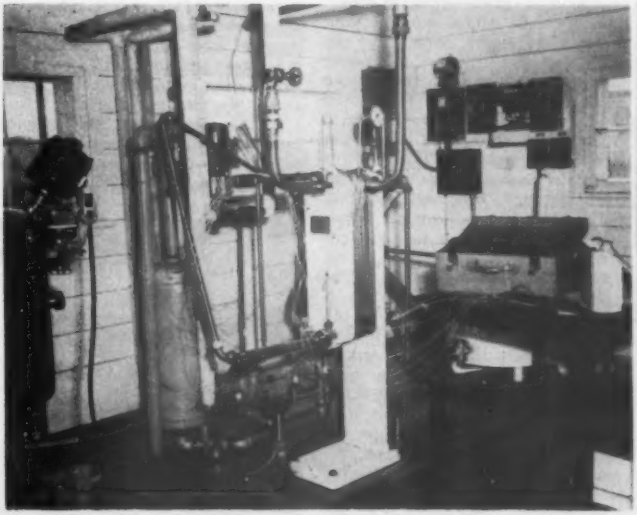
This about sums up what we were told by the Diehnelts about their gift pack.

A gift package is common to many distributors. Note the story in this issue by Meineke along this line, also by Ira Bowers.

Diehnelt's gift pack; honey candies, hand dipped candies; drip cut of liquid honey, carton of honey apricot marmalade, and one of candied (creamed) honey. At right, a copy of New Favorite Honey Recipes from American Honey Institute.

Left: Prof. R. Elwood Montgomery, Purdue University (Indiana), sends this picture of a hive marking used by former State Inspector Starkey. Note how the star and the key identify his property and yet do not reveal a name unless known by the observe. This is an interesting plan.

Above: Ira Bowers did it again this year by winning the American Bee Journal Sweepstakes Trophy at the Illinois State Fair. Here he is shown with his daughter and granddaughter "Honey Girl" whose baby picture was on the cover of the February 1950 ABJ. She is three and one-half years old now.



Left: Newspaper mats like this one are available to beekeepers from the American Honey Institute. They are very effectively used in newspaper advertising. Interested beekeepers are urged to write the American Honey Institute, Madison, Wisconsin, for prices of these mats.

Above: Bee Division Scientists at the Central Experimental Farm, Ottawa, Canada, succeeded in pasteurizing and cooling honey on a continuous-flow basis, by the use of a plate heat exchanger. The honey was preheated to 150 degrees F., pasteurized to 179 degrees F., and cooled to 83 degrees F., as indicated by thermocouple readings in the flow line.

The Principle of the Ohio Capping Melter and How to Operate It*

by Dr. W. E. Dunham

Department of Entomology
Ohio Agricultural Experiment Station
Wooster, Ohio

This is the second of two articles by Dr. Dunham on this equipment. For the other article describing construction details see your October 1952 ABJ, page 432. Ed.

THE procedure in starting capping melter operations is not difficult. The steam valves are opened to allow the steam to flow at about eight pounds pressure. All steam connections should be checked, especially the connections on the steam grills, as escape of steam will mean getting water into the honey. If the beekeeper has about 300 pounds of off-grade extracted honey, this should be poured into the tank to raise the honey level near the bottom of the grills so the honey and wax will flow from the capping melter tank more promptly. If no honey is available the melted dried cappings are allowed to fall to the bottom of the tank.

Fill the tank over the grills with dried cappings, constantly packing the cappings thus allowing a larger quantity in the tank as well as facilitating more rapid melting down during the heating process. The packed cappings should be about eight inches deep in the front of the tank but can be increased toward the back where they can be within six inches from the top. The cover is placed over the tank so that it fits tightly to prevent the escape of heat.

As the dried cappings melt on the steam grill into a fluid stage, the various constituents, namely, honey, slumgum, and wax seek their levels of segregation. The honey is at the lowest level, the slumgum occupies the middle level and the wax which is lightest is on the top level.

The Honey Phase. As the dried cappings hit the steam heated grill, they are melted rapidly. The honey settles through the wax and slumgum to the lowest level of the tank. As it fills the tank, the honey level within the "honey well" also raises and eventually overflows into the open pipe which conveys the honey to an auxiliary storage tank. By means of a semi or automatic pump arrangement, the honey is transported to another storage tank of larger capacity. This honey known as "capping melter honey" is considered poor in quality but has a ready sale for certain industrial uses.

The Slumgum Phase. The term slumgum has been in long usage by beekeepers. Slumgum is refuse left after removing the wax from cappings or from combs. The material is composed of the thin cocoons left in the wax cells, chunks of pollen and other foreign material.

In the operation of the capping melter the middle layer of slumgum serves a useful purpose in that the honey filters through this layer removing all foreign particles and leaving the honey clean. As more and more dried cappings are run through the capping melter, the thickness of the layer of slumgum builds up and finally reaches a stage that obstructs efficient operations. When the rate of wax flow slows up the mass of slumgum must be removed. Do not add any cappings to the tank but continue the heating process until as much wax has run off as is possible. Shut off the steam and allow the slumgum to partially cool. Then by means of a small scoop remove the slumgum above the grills. Take special care to clean the back section of the tank. Then remove the nuts from the pipe fittings to the grills and remove the grills from the tank. Allow the slumgum to cool until the wax has congealed to the stage that sections about 10 or 12 inches square can be cut and yet hold their form. If this is done in the late afternoon the cut sections of slumgum may be re-

Lemon yellow crude beeswax — a product of the Ohio capping wax melter.

* Journal Article No. 30-52.

moved fairly readily the following morning. Before replacing the grills, it is wise to brush them carefully with a wire brush as a bright surface is best for heat radiation.

A practice that will postpone the time when the entire tank must be cleaned is to push back and remove the slumgum from between the grill bars each morning before adding more cappings. If the cappings are from white or nearly white combs, the poundage that can be run through this tank before it needs to be completely cleaned out is surprising. For instance, in one test the cappings were run through from 130,000 pounds of honey before the slumgum from the capping melter had to be completely removed.

The Wax Phase. The dried cappings melt rapidly when they hit the steam heated grill. More cappings settle on the hot grill and the melting and settling process is continuous. Due to the construction of the tank, the melted wax runs to the front and out through two ⅛ inch pipes into wax containers. The bottom and sides of these containers for wax should be smooth and for easiest removal of the solid wax cakes, slightly flared containers are best. About ¼ inch of water should be in the bottom of each wax container. This also helps in removing the cake of wax. If the equipment is in good running order about 300-500 pounds of wax can be run through in a day.

Caution. If the layer of slumgum is allowed to become too thick under the grills, the wax and honey cannot separate properly. In such an event both wax and honey run together into the wax containers.

Some beekeepers may not have arrangements for steam and will substitute hot water with an open flame as a source for heating. Never use an open flame when processing beeswax. Many disastrous fires have started in this way resulting in loss of buildings and in some cases death to the operator.

Why We Should Talk Sales

by Charles W. Gouget

THE ultimate objective of all honey production is sales except where honey is produced only for home consumption. Sales involve profits because without profits an industry cannot exist, but selling on our modern markets is not the simple, barter-like exchange of goods or services that was possible years ago. Successful marketing today is a science which deals with a multitude of factors that affect the sale and distribution of a product from the producer to the consumer. For this reason the marketing problem today is too big for any one individual, and requires the education and cooperation of all who may contribute in any way toward placing a product on the market. The "rugged" individualist who thinks that he is harming no one but himself by price slashing is probably lacking a knowledge of some of the most fundamental principles of good marketing practice. Such an individual should be made aware of the harm he does to the whole industry.

The Producer Salesman

Selling and salesmanship are as essential as production. Very few of the important things we use today have been accepted by the public without a real sales talk, and in most cases many of them. These include such important items as Whitney's Steam Engine, the Morse Telegraph, and the McCormick Reaper. Since it took fourteen years to sell the first one hundred reapers one can imagine how enthusiastic people must have been about them at the start. It required real salesmanship to break down this barrier. The same kind of problem is faced by the honey industry. Salesmanship converts the neutral or negative attitudes of people towards a product into positive wants or demand. It performs this litle miracle by convincing the customers of the need for the thing being sold, and in so doing it finds new customers and perhaps new uses for the product. Real, "live" salesmanship is the biggest problem to be solved in the honey industry, not production, it has been solved. We have the product, we know that it has merit, having both healthful and curative properties, but we still have not conveyed these ideas to the public objectively enough to make it want to use honey in place of cheaper or more easily handled sweets. We must find ways of doing a better job of selling, and this can be done only by education and the interchange of ideas on sales and marketing. Nothing is gained by talking production because we have the product and it must be moved, so the real problem is salesmanship.

Cooperation

Successful salesmanship today involves cooperation of all of the factors and agencies necessary to put the product into the hands of the consumer. The problem, again, is too big for any one producer, salesman or distributor, but each must be educated to the part that he plays in the scheme of things as a whole. Only with such an education will each individual concerned with the future of honey realize the important part that he plays in the "chain reaction." As a result he will not be likely to jeopardize the welfare of others through the ignorance of facts. This means that we must talk sales louder and more often, so that everyone may hear, and until everyone from the producer to the retailer is better educated on the very complex problem of modern marketing and selling.

Illinois

Answers . . .

conducted by

Frank E. McLaughlin

In using artificial heat on colonies what temperature should be maintained in the hives, and when should the heat be started in the spring?

Raymond Mier, Minnesota

About 40° F. would be the right temperature. If it is too warm, a large amount of the bees will be lost. The warmer temperature in the hive will cause them to fly out, and if the temperature outside is too cold the bees will become too cold to get back in the hive. February or March would be about the right time to start the heat in your locality. Some sort of top ventilation should be arranged, and the top of the hive insulated to keep the heat from escaping. A good article was published on hive heating in January 1949 ABJ, page 12.

I am one of a group of beginners interested in keeping bees for pollination. Recently one of our group moved six colonies into a stand of vetch. These colonies had newly introduced queens. On examination about five weeks later, one colony was found to have only one bee—the queen. Why did the working force desert her?

Sam H. Taylor, Tennessee

The best of queen breeders will occasionally raise a queen that is not good through no fault of their own. In this case, the queen probably was a poor one. After the brood that was already in the hive had hatched, the bees simply absconded and joined another hive which had a good, prolific queen. In most cases when the queen is poor the bees will kill her and have been known to steal an egg from another colony to raise a new queen. Some queens that have mismated will lay drone eggs, but evidently this queen didn't even do that. The other bees in the yard very likely robbed this hive of the honey left in it.

My bees are in a single brood chamber with queen excluder and super. The super is almost full of honey. Should I leave the excluder and super on for winter?

Guy W. Cole, West Virginia

Do not leave the queen excluder on the bees for winter. They should have the one super of honey for winter, but the excluder should be removed in case the cluster of bees moves up into the super during the winter. If the excluder is left on, the queen would not be able to move up into the super and the cluster might be broken up and the whole colony lost. If you have a good fall honeyflow, you might put on a second super and secure some surplus honey. I winter my bees in a double hive body with 75 to 80 pounds of honey for winter stores. With plenty of food the colony will be strong in the spring, the queen will start laying early and keep right on raising brood. It takes more honey in the spring for a colony than in the winter.

Some of my equipment (hives, combs, and so forth) was in a room which was sprayed with an insect bomb containing DDT. This was several months ago. Can I safely use this equipment?

Victor Perkins, Vermont

My suggestion would be to wash the equipment thoroughly with water containing vinegar. Rinse it well and dry it before using. If the combs came in direct contact with the spray I would be afraid to use them. But anything that can be washed can possibly be saved.

Charles Dadant Commemoration . . .

(Continued from page 454)

and their seven children of whom Charles was the second. It is interesting to note that the mayor of the city of Vaux is a relative of Francois' wife, bearing the same family name of Jayet. Also interesting is the fact that the old home still contains some of the old wallpaper of the days of its occupancy by the Dadants and is well preserved. The Dadants have disappeared from the community, the last one of those residing there having passed away in 1895. In 1899 the home was sold to the Bernard Boeuf family who kindly authorized the placing of the commemorative plaque.

Charles was always a lover of nature. As a boy, he amused himself by learning to graft buds of different plants, often surprising his playmates by taking them into the woods to see blossoming roses grafted on the native wild rose growth. When he was but a youngster he was given a box or two of bees by the local vicar who had noticed his aptitude for nature and hoped to arouse a genuine interest in bees in Charles. From that day on Charles Dadant was a beekeeper, although intermittently until his emigration to the United States in 1863, when from a start of two colonies he soon took it up as a vocation.

Grounded in education in Langres, Charles showed little interest in his father's profession of medicine. Nor was he pleased with his early work as a wholesale dry goods salesman and later as a tanner. But with a wife (Gabrielle Parisot) and family, he must needs make a living following in his father-in-law's footsteps in the tanning business in Langres. However, the 1848 revolution altered this prosperous business as the railroad projected its lines two miles from the old fortified town of Langres which left the old town "high and dry" and all business rapidly deteriorated. Here was the opportune time to make a change and in 1863 Charles himself came to America to seek a location in the great open places of nature which he loved, presumably to introduce the production of grapes and the making of wine of his old famed Champagne Country. His wife and three children followed the same fall arriving in Hamilton, Illinois, on October 12, 1863. But the Champagne grapes would not grow in Illinois and the wine also was a disappointment. Though grapes and wine making were continued, the two colonies of bees which Charles Dadant had secured soon after coming here gradually were expanded until this became his chief pursuit as well as that of his son Camille and of their descendants.

Charles Dadant had met Mr. Debeauvois at a Paris exposition in 1844 and had accepted the frame of Debeauvois for his own bees. Box hives or gums were transferred to the Debeauvois type of hive. Charles immediately got in touch with the American Bee Journal and became a regular subscriber. Though he was 46 he quickly learned the English language, both to read and to write, although he could speak only brokenly.

Langstroth had just discovered the bee space and invented the Langstroth movable comb hive. Dadant immediately accepted it. He had used the Debeauvois hives long enough to realize that though they were an improvement over the skep or box hive, the Langstroth principle of the bee space and top opening hives with removable frames was far ahead of any other plan of keeping bees previously advised.

He began a series of articles in the French bee journals, urging the change-over in France to hives with the Langstroth principle. By that time he had also familiarized himself with the Quinby frame. Quinby was at that time the most successful beekeeper in the country. Dadant used the Quinby frame and devised a hive of his own which he called the Dadant hive. It is this hive or its modifications which is still the standard of most European countries, France included.

Small wonder that the beekeepers of France gathered to honor their old master, even fifty years after his demise.

But Charles Dadant's success in introducing the large hive and the movable comb hive into France was not all smooth sailing. Opposition arose on the part of the "Fixists," those who still insisted that the step was too far away from nature's plan. Hamet, editor of the L'Apiculteur, refused his columns and Dadant was forced to seek other French bee magazines to argue the cause of modern beekeeping by means of the movable comb system. His vindication came years later when Hamet was forced to admit that the new method was superior to the old and again invited Dadant to write for his magazine.

It was during these troubled years that Edouard Bertrand, editor of the Swiss magazine, "Revue Internationale D'Apiculture" championed his American friend and opened his columns to the progressive ideas of Dadant in America.

New Book on Pollen . . .

Dorothy Hodges, an English artist and beekeeper who has long been interested in pollens, has written and illustrated a new book, "The Pollen Loads of the Honeybee" (Bee Research Association, London). It is a fascinating work which we recommend highly.

Foreword to the book is written by Anna Maurizio, authority on pollens, of the Bee Department at Liebefeld, Bern, Switzerland.

The pollen packing process of the bee is described in detail, flowering dates of plant species given, colors of pollen and color variations discussed, and means of identification of different pollens presented. The book is especially noteworthy because of the 30 pages of drawings of pollen grains from 117 different plants, the four color plates of pollen-bearing bees, and the color charts in the back of the volume. Results of color recording during five seasons are presented in actual colors, arranged in the approximate order of flowering in the south of England. Three examples of pollen color are given for each plant represented, the variation in color being due, according to the author, to moisture, exposure or adulteration by soot and dirt.

The question arises as to whether this chart may be applied to American pollens as well as elsewhere. Our scientists will be interested in comparisons.

Interested readers may order this book for the fall and Christmas season. The price is $3.00 postpaid.

Chas. D. Blaker . . .

Word has been received of the death of Chas. D. Blaker, 88, of Minneapolis, Minn. Mr. Blaker was former State Apiarist from about 1915 to 1925 and had been retired since he left the state service. He was well known to beekeepers of Minnesota and to beemen of his time throughout the country.

All Around The Bee Yard

by G. H. Cale

No doubt about it, the stimulation of the October honey publicity campaign, sponsored by the cooperative effort of the Food Distribution Branch of the Production and Marketing Administration, the American Beekeeping Federation and the American Honey Institute, has greatly affected the demand for honey. Although the price level has not materially increased, the sealing of honey for loan or purchase is small.

Part of the demand, even under stimulation, is due to the fact that most people have more money to spend and so want more foods than normal. When necessity dictates spending we will again return to a dull market if we do not continue to promote honey in every possible way.

We need a sustaining effort that will constantly make a job of honey publicity. American Honey Institute has spearheaded bee and honey publicity for years, constantly on the job. It seems to me that, in addition, we need a direct distributor-market-consumer level standby all the time. Given that and the publicity we have at hand, honey may then become an item in consumer consciousness that will bring it the place among foods that it deserves.

In spite of all the fanfare by radio, television, advertising, trade articles, displays and augmented supplies that have featured this drive, the narrow level of rise in some ways shows that it does take more than a short term drive to accomplish what we need. In store, after store; super market after super market that I have lately visited to find honey out front, I have seen only one island display and no tie-in display. We know that there are many markets with a more satisfactory report. A close look will reveal that the local associations or active distributors have secured the cooperation of the stores to bring down to consumer level all that this October drive has done. Where little or no response is evident in the store, it seems likely that the beekeeper, individually or collectively may be at fault. In areas where a distributor is active with a comparatively large volume of honey to sell, the tie-ins with the campaign have been satisfactory. As usual the industry is, by and large, on the dull, slow side.

As usual the woolly worms (Monarch) are still woolly, black and orange. Some weather men think that a small length center orange band and long black end bands mean unusually cold weather. All I have seen so far show orange and black about equal. Lee Stewart says late egg laying means mild weather

and that, in his location (central west Indiana), egg laying is late again this year as it was last. So, will we have a winter somewhat colder than last year but still "comfortable" as far as wintering bees is concerned?

My greatest weakness in the bee yard is failure to have something under the bottom boards of all the hives. This is quite a problem even though it seems simple. One can use a hive stand but a hive stand costs too. Often the cost of the hive stand is about what a new bottom costs unless you have something for a stand that you can get for very little. We have used wood rims, wood runners, tiles, bricks, tire rims, cement blocks, and corrugated metal. Of all of them I like the corrugated metal the best but right now it costs more than a new bottom board. If roofing, with shallow corrugations, is available at a low price, it is easily cut into squares by setting a spike into the floor, attaching a wire to it and laying the metal on the wire. Place your feet either side of the wire and draw the wire back through the metal. Surprisingly how easily it cuts. These metal squares will last for years and can occasionally be reversed or set in a new position to remove any depression weight may cause. Moisture runs off in the troughs between corrugations. If you have to pay for hive stands today you can easily be paying for a new bottom. Perhaps, next to the metal, tiles are the best bet.

How did I get into all that? Likely because I have lately been closing entrances for winter and screening top entrances to keep mice out and found it easy to tip the hives back on the ground to do the work. That brought each bottom right up facing me and it will take quite a few new bottoms for replacement next year. However, by noting color, and style of make it was also evident that many of the bottoms were anywhere from ten to fifteen years old. Perhaps they served well after all.

I read and re-read the Round-up on fall management and wintering and came up with the conclusion that here in Illinois at least, strong colonies, reasonable shelter, reduced bottom entrances and good top entrances and plenty of honey and pollen are about all the bees require. True, the best colonies come from good queens but I am more inclined each year to divide colonies early for our flows, and unite at the beginning of the flow, letting the bees pick their queens. It saves a lot of labor and time and does result in more honey.

The Flying Nation . . .

To our readers interested in a bee book for children we suggest "The Flying Nation" by Dorothy E. Crowder, a 150-page clothbound book well written in a style which should appeal to the growing youngster. While British, it is well adapted for Western Hemisphere use. It contains color plates and line drawings. We stock a few for the convenience of our readers. The price is $1.50 postpaid.

Farm Accidents . . .

The National Committee for Farm Safety informs us that the incidence of accidents is fifty per cent greater on the farm than in the cities. The score is fifteen thousand members of farm families suffering death each year from farm accidents.

MEETINGS

Program
Southern Beekeepers Federation and American Bee Breeders Association
December 1 and 2
Heidelberg Hotel, Baton Rouge, La.
December 1

8:30-9:30—Registration, E. C. Bessonet, Presiding.

9:30—Call to Order; Invocation, Dr. J. Norris Palmer, pastor First Baptist Church.

9:45—Welcome Address, Gov. Robt. W. Kennon.

10:00—Response, Leslie Little, Shelbyville, Tenn.

10:15—President's Address, Paul Cutts, Chipley, Florida.

10:30—Agriculture in the National Economy, H. C. Sanders, Director Extension, Baton Rouge, La.

11:00—Bees, their importance in Agriculture, W. E. Monroe, Ext. Agronomist, Baton Rouge, La.

11:30—Business session, Appointment of Committees.

12:00—Lunch.

1:30—Future of the Package Bee Industry.

2:00—Panel Discussion: What can we do about the price situation, E. C. Bessonet, Roy Weaver, Chris Jensen.

4:00—Business session Louisiana Beekeepers Association, L. L. Couch, President, Pineville, La.

7:30—Banquet, Heidelberg Hotel.

December 2

9:30—Call to Order, J. W. Newton, presiding.

Invocation, Rev. T. D. Sumrall, Pastor Emanuel Baptist Church.

10:00—President's Address, L. A. M. Barnett, Bellaire, Texas.

10:30—Diseases, What they are Costing Us, W. A. Stephens, Raleigh, North Carolina.

11:00—P.M.A. Honey Promotional Report, Paul Phillips, Regional Director, Dallas, Texas.

11:30—Industry Wide Problems, Glenn Gibson, President, American Beekeeping Federation, Minco, Oklahoma.

12:00—Appointment of Committees.

12:15—Lunch.

1:30—Panel Discussion on Express Rates, led by Dave Pearce, Commissioner Agriculture, Leslie Little, M. S. Fortune, E. C. Bessonet, Paul Cutts, Glenn Gibson, with Railway and Express Officials.

3:30—Business Session of Both Organizations.

Note—Due to comparative rates and accommodations, with all facilities offered, the committee selected the Heidelberg Hotel for headquarters. It is urged that all visitors get their reservations in early. All arrangements have been made that each direct reservations to the hotel.

Westchester Co. Beekeepers Assoc.
New Rochelle, N. Y., November 16

The Westchester County Beekeepers' Association will hold its regular monthly meeting at 2:30 p. m. on Sunday, Nov. 16, at the Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, N. Y. This will be our first indoor meeting at which time we will have our annual honey show. Each member may have an entry in each of the following classes: light, amber, dark, chunk, comb and wax (at least ½ lb. in square or round form). Ribbons will be awarded for 1st-2nd-3rd in each class, with a grand prize ribbon for the one having the most points at the end of the judging. Bring your entry even if it is in only one class. Refreshments will be served and visitors are always welcome.

Carlton E. Slater, Publicity

Iowa Annual Meeting
Ames, December 4

The annual meeting of the Iowa Beekeepers Association will be held at Ames, Iowa, on Thursday, December 4. A full program is planned centering around forum discussion of production in the forenoon followed by a forum discussion of marketing in the afternoon. This will be followed by the business session of the Association. The banquet will be held in the evening, followed by an illustrated talk "Beekeeping in England" by John G. Jessup.

F. B. Paddock,
Extension Apiarist

Middlesex Co. Beekeepers Assoc.
Waltham, Mass., November 20

Middlesex County Beekeepers will hold their second indoor meeting of the season at their winter quarters at the Mass. State Field Experimental Station at Waltham, Mass., November 29, 1952, beginning at 6:30 p. m. with a buffet dinner. Reports will be heard of the results of the all out Honey drive which was instituted at the catered dinner on October 25, the Kickoff for National Honey Week.

Members participated in radio broadcasts and gave lectures at various clubs and special meetings during the entire month of October to back up the displays set up under the direction of PMA. The new recipe boxes of the American Honey Institute were sold to many interested members and friends.

John H. Furber, Sec'y

Oregon State Beekeepers
1952 Convention
Redmond, November 17-18

The Oregon State Beekeepers Association has scheduled its 1952 Convention for November 17 and 18 at Redmond, Oregon. A complete revision of the present bee law will be the main interest of the program.

Oliver W. Petty, Sec'y

American Beekeeping Federation Annual Meeting

Some details of arrangements remain to be ironed out but it now seems certain that the annual meeting of the American Beekeeping Federation will be held in San Jose, California, during the week of January 19-23, 1953.

Honey sales promotion will have the spotlight, but perhaps only to a slightly greater degree than pollination, which has grown in recent years to be a very important source of income to beekeepers in legume seed production areas.

The program will be announced at the earliest possible time, but plan now to attend. Policies and programs adopted there affect YOUR business throughout the year.

Glenn O. Jones, Sec'y

Nebraska Honey Producers Annual Meeting Lincoln, November 13

The annual meeting of the Nebraska Honey Producers will be held at the Agriculture College, Lincoln, Nebraska on November 13, 1952.

PROGRAM

8:30 a. m., registration.

9:30 a. m., the "Nebraska Honeys" will hold their meeting in the lounge of the Cafeteria building.

9:30 a. m., meeting called to order, E. H. Adee presiding; report of Secretary-Treasurer, Edw. A. Wolfe; Inspectors report, C. J. Walstrom; panel discussions: Legislative Committee, Public Relations Committee, Advertising Committee, State Fair Committee, Pollination Committee; the president's address, E. H. Adee; business meeting, election of officers; dinner at Cafeteria.

1:30 p. m., The Supply Outlook, Frank Swanson; The "Nebraska Honeys" report, Mrs. Marie Adee; Bee Diseases, G. H. Cale; The Market Outlook, speaker to be announced; Resolutions.

6:00 p. m., banquet in Cafeteria building followed by a short entertainment.

8:30 p. m., square dance in Student Activities Bldg.

Ohio Beekeepers Association Columbus, December 1

The Ohio Beekeepers Association will hold their annual business meeting Monday, December 1, 1952, in the hearing room No. 3, State Office Bldg., Columbus, Ohio, starting at 9 a. m.

Geo. Rehman, Pres.

Honey Day Celebration . . .

Beekeepers of the Village Industries Committee, Bombay State, India, celebrated the collection of their honey crop on April 29, 1952, with a procession of members with their crop of honey on their heads. The Beekeeping Centre which has been conducted since 1947 under the auspices of the Village Industries Committee under the Government of Bombay, is proud of their honey production this year. It will reach about 25,000 pounds. There are an estimated 1435 colonies of bees in that area with about 400 beekeepers in more than 50 surrounding villages.

One hundred and fifty beekeepers with their crops marched to the music of a band from the corner to the center of the bazaar at Mahableshwar. There Shri. B. K. Wadia presided over a meeting at which Rao Bahadur Thombre spoke. He said that in the four years of work carried on by the Beekeeping Centre he had seen beekeeping advance from the point where the villagers were afraid of an imaginary evil from the bees and would burn free equipment given them, to the present level under which many villagers earn more from beekeeping than they do from agriculture.

The Playfair Hive and The Playfair Book . . .

We have been interested in reading a reprint of the address of Mr. J. N. Tennent given before the Scottish Beekeepers' Association at Aberdeen in September 1951. It concerned an old book which has never been published and an old hive which has never been publicized. James Playfair (1752-1812) apparently was a good beekeeper with a large apiary who wrote down his observations and discoveries and sent them to a London publisher. It was thought at the time that either the manuscript was appropriated by the publishers or burned up while still in their hands. Now it turns up 140 years later as having been returned, probably refused, and been in the possession of the descendants since that time. It is now with the East of Scotland Beekeepers Association.

Playfair quoted from Virgil and Reamur. He rejected Huber on such statements as that the queen is fecundated on the wing and that if the queen is delayed beyond 22 days in mating she becomes at best a drone layer. H. M. Fraser suggests the possibility that such dissents from Huber may have caused the rejection of the manuscript since Huber was popular at that time.

There are 200 foolscap pages of well written script with numerous illustrations. Mr. Playfair expected a book of some 600 pages (printed). His first 120 pages present a system of beekeeping. His hive was almost a cube with eight frames 12x12 or thereabouts. His frames had top bars, but still the Langstroth principle was missing and the combs had to be cut from the walls to be removed. He was getting close however, for he says, "If one is inclined to have a frame of glass in the top board to see operations of the bees, it would be necessary to make a vacancy of ⅜ of an inch between top bar of frames and top of hive to allow the bees a thoroughfare."

Apparently his idea was that the nectar carried from flower to flower aided pollination. He knew of honeydew and its origin but was mistaken about pollen which he thought was gathered to overcome the stench after hatching bees, and to scour the cells. His ideas of generation were far from Huber— that bees injected semen into the cells when the egg was laid; drones borrowed eggs from the queen to rear drones, such eggs being impregnated by the drone semen; and that the queen cell had a peculiar transformation and impregnated itself.

With only a ½ inch pocket microscope to delve into anatomy it is not strange that he engaged in some "fairy tales." But on the whole his observations were keen and for the most part, practical.

It is unfortunate that the book was never published. It likely never will be. Probably our only chance to partake of the enjoyment of the book is through men like Tennent and Fraser in their writings. Or perhaps there may be a microfilm made some day as Playfair's handwriting seems very legible.

Iowa State Apiarist Report for 1951 . . .

F. B. Paddock's State Apiarist report for 1951 was submitted to the governor on April 28 and is now being distributed. It is of the usual fine character of Paddock's reports.

First there is a tribute to Iowa's most famous beekeeper, the late Frank C. Pellett. This is followed by Paddock's own report on disease eradication, with a 2½% infection in 1951. An account of the Iowa Association award to Edward G. Brown of Sioux City for outstanding work for beekeeping in Iowa follows.

A significant point of the report is the inclusion of much material from foreign sources; Fraser of England on Early Beekeeping History; Scaries of England on Hobbyists; Evarts' excellent description of Heather and of Beekeeping in Holland; Okada on Japanese Beekeeping.

Other contributions are from Bare on Teaching Beekeeping; Benson on Arizona Beekeeping; Martin on Honey at Fairs; Moffett on Colorado Marketing; Newton on Nosema; Beilmann on Bee Plants; Melvin Pellett on Honey Shrubs; McClaugherty on Disease in Colorado; and Haydak's fine article on Bee Venom.

The report covers 125 pages. It is a commendable piece of work.

Crop and Market

by M. G. Dadant

Indications are that beekeepers this year were better equipped or had more help, since practically all reports coming in are to the effect that honey is largely extracted and ready for the market. There are a few exceptions in some of the heavy producing areas and in sections where a late crop developed. But otherwise most of the honey is in the process of being distributed or held in bulk awaiting disposition.

Size of Crop

Heavier crops in California and the balance of the west coast, on the western slope of Colorado, along the Red River Valley and south along the upper Missouri Valley, and in Florida would lead us to believe that perhaps the entire crop for the United States will be the equal if not somewhat in excess of 1951. It is to some extent modified by the fact that fall crops generally have been a disappointment.

Sections reporting better than average crop include Connecticut, northern New York, Virginia, Florida, Louisiana, and sections of Indiana, most of Iowa, northern Missouri, southern Michigan, Wisconsin, southern and western Minnesota, western Nebraska, southern and central Wyoming, Oregon, Washington and California. Other sections are either about normal or considerably below. Those sections which probably have minimum crops include West Virginia, Georgia, Alabama, Mississippi, Pennsylvania (especially low), some sections of Minnesota, northern Wyoming, southern and eastern Montana, Texas, Nevada, Utah, and the various provinces in Canada which apparently will have an average of not over 75 to 80 per cent of 1951.

Fall Honey

In general, the fall honey has been sufficient for filling the brood nest for winter stores although there are indications now that a prolonged warm fall has increased colony consumption through breeding and that where the fall crop was not good bees may have to be fed to give them carryover into or through the spring season. Otherwise in most cases the fall crop has been sufficient to put both young bees and stores in excellent proportion for the winter with some surplus honey besides.

Some sections report relatively large crops. This has occurred in New York, New Jersey, a few sections of Illinois, eastern Nebraska, Tennessee and Kentucky. The state apiarist for Tennessee reports many colonies averaging more than 100 pounds on bitterweed alone, the question arising as to what should be done with it. Even after thoroughly heated and aired there still is the bitter flavor. Perhaps it can be sold for mixture with poison baits for insects, or preferably fed in spring for building baby bees.

Condition of Colonies

As stated previously the condition of colonies seems excellent in practically all sections of the country. Dry weather in the South was followed by rains which brought on the fall weeds, including the local bitterweed, and as a consequence colonies have built up to strength and are heavy with stores. There are a few exceptions to the rule but in most cases both the colony condition and honey stores seem ample for the winter ahead.

How Is Honey Selling?

We find quite an encouraging situation. Although some sections are still reporting honey selling as slow (these are mostly in the southern areas where the crop has not been large and probably the selling effort has not been prolonged), in other sections reports are from fair to good to extra good sales for this season of the year. Sales in the Canadian provinces seem equally good with a comparatively smaller crop to dispose of this year.

Honey Prices

In practically all instances honey in bulk is not going to be sold much below support prices although there is a tendency on the part of the individual and comparatively smaller producers to take one-cent and two-cent reductions under the support price rather than go to the trouble of placing the honey under Government loans. However, these lots will undoubtedly be disposed of before the selling season is very well advanced. In practically all other instances honey is selling at support prices or thereabouts and this is particularly true of the lighter grades. We learn of several lots in the Central West selling at 12 to 13 cents a pound, in some cases cans to be returned. These prices are F.O.B. the producer's honey house. Other lots naturally are moving considerably under this figure but it appears that the market will stabilize at least at support prices.

In California, where the heaviest crop has been secured, much of the surplus honey is moving to foreign channels. In fact the Government report shows some 12,000,000 pounds already disposed of; Germany, Holland, and Belgium being the chief users.

We have some reports of honey already going under the PMA loan program, but it is our opinion that beekeepers are preferring to hold their honey at least for the present to see whether there are not possibilities of disposing of it in domestic U.S.A. rather than burden our government with their honey on a loan program basis, besides the effort on their part to get proper storage, loan permit, and so forth.

In the Canadian provinces prices have held about as previously, ranging from 13 to 16 cents for white honey, although the Canadian Beekeeping Council, we believe, has not yet made its recommendations.

Summary

All in all, the crop has been generally about average with some sections like the south of Texas, Ohio, parts of Indiana, Utah and sections of Montana running considerably under a year ago, balanced by other sections with added production. Michigan appears, in the southern sections at least, to have had an excellent fall flow.

We rather anticipate a stiff honey market as the season progresses. At least reports coming to us of individual lots of from five to ten tons of honey moving quickly would so premise. Apparently white honey will be the premium article.

The Market Place . . .

BEES AND QUEENS

THREE BANDED ITALIAN QUEENS—Best of quality and very gentle. Requeen now for next spring honeyflow. 1 to 25, $1.00 each; 25 up, 90c each. Alamance Bee Company, Graham, N. C. Phone 4703.

SHORT'S QUEENS ARE GOOD QUEENS. Try them and you will find their colonies tops in production, gentleness, and free from diseases. Three banded Italians only. Used by leading honey producers for more than 30 years. Requeen now for maximum production next year. $1.00 each; 10, $9.00; 25, $20.00. Prompt shipment. Postpaid. H. C. Short, Fitzpatrick, Ala.

SELECTED ITALIAN QUEENS 75c each, Caucasian 90c, Carniolans $1.00 each. All queens shipped by Air Mail and guaranteed to please. Walter D. Leverette, P. O. Box 364, Ft. Pierce, Florida.

EAT HONEY—NATURE'S SWEET. Produce it with gentle Caucasians. Write for price on 1953 queens. Tillery Brothers, Greenville, Ala.

YELLOW ITALIAN QUEENS, package bees for 1953. Health and service guaranteed. O. E. Brown, Route 1, Asheboro, North Carolina.

YANCEY HUSTLER Package Bees and Queens. Ready to go April 1st. Booking orders; no advance payment required. Caney Valley Apiaries, Bay City, Texas.

FOR SALE

500 colonies of bees and all equipment, honey house, modern home, or bees without home or honey house. Would rent honey house. J. T. Camp, Hot Springs, Montana.

IMMEDIATE DISPOSAL — 200 colonies bees, eight dollars each, including shallow extracting supers. Discount entire lot. Factory made hives, heavy for winter. Health certificate furnished. R. E. Weldon, Warrensburg, Mo.

WANTED — RETIREMENT. Am offering Miss. and S. Dak. approved disease free bees, with two operational units and all equipment for honey production, at Gary and Bruce, S. Dak., for sale, honey basis or share cropping basis to right man or men. Good sweet clover and white Dutch clover territory. Some fall buckwheat. Migratory operations, two good International transportation trucks. Bees wintering in Miss. for spring return. For further particulars address Box 100, c/o American Bee Journal.

FOR SALE—New and used Electro Filling Machines. Models from $165.00. Hancock Honey House, Hancock, Iowa.

FOR SALE—30 stands bees with fall crop on; extractor and equipment (supers-bodies); approximately 1000 lbs. white clover honey in cans. Will sell all or part. H. B. Reese, Griggsville, Illinois.

No. 1 bright 60-lb. tins 30c. No. 2 good 60-lb. tins 20c for orders of 100 or more. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

800 colonies of bees, all equipment, honey house, with or without modern home. White honey district with high long term average. Health certificate furnished. Ned F. Dressel, Ronan, Montana.

IN SAN LUIS VALLEY, 6-room modern home with honey house attached, hive and frame making tools, bees and equipment. Write for particulars. Don Davis, Rt. 1, Alamosa, Colorado.

FOR SALE—40 acres, house, honey house, 11 newly established hive apiary. True beekeeper's paradise. Husband's heart condition forced this sale. Write for details. Ruth Horn, Rt. No. 2, Box 258, Cantonment, Fla.

Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rate of Classified advertising—13 cents for each word, letter, figure or initial, including the name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

FOR SALE—9000 new KD 9¼ inch brood frames, grooved top, solid bottom, at $8.00 per hundred f.o.b. Teds Cabinet Shop, 910 N. Main, Helena, Montana.

SIFTED CANE and beet sugar sweepings. Sold f.o.b. Chicago. Northwestern Sugar Co., 1800 N. St. Louis Avenue, Chicago, Illinois.

HONEY and BEESWAX WANTED

CARLOADS or less bottling honey. Cans furnished or exchanged if wanted. Send samples to Honeymoon Products Co., 39 E. Henry St., River Rouge, Michigan.

CASH PAID for honey in all grades. Submit samples. Schultz Honey Farms, Ripon, Wisconsin.

WANTED — Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

WRITE FOR SHIPPING TAGS and current quotations on rendered beeswax. Any amount from one pound up bought. If you have 25 pounds or more, save 25% by letting us work it into foundation for you. Walter T. Kelley Co., Clarkson, Kentucky.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

WANTED—All grades comb and extracted honey, large or small amounts. Quote price in first letter. Mail sample. King Honey Co., 4308-10-12 E. Truman Road, Kansas City, Mo.

CARLOADS or less of honey and wax. Send sample and price. Alexander Co., 819 Reynolds, Toledo, Ohio.

WANTED—Extra white and light amber honey. Let us ship you the containers. Sell us your honey for CASH on delivery. The Hubbard Apiaries, Manufacturers of Bee Supplies and Comb Foundation, Onsted, Michigan.

CASH PAID for white and amber extracted honey. Send samples and state quantity available. Prairie View Honey Co., 12303 Twelfth St., Detroit 6, Mich.

WANTED — Good quality honey in 60's. Send sample. Quote price. Clearbrook Honey Farms, Clearbrook, Minnesota.

WANTED—Cut-comb and strained. Send samples and price. Cole Honey Co., 4460 Piedmont Ave., Oakland, Calif.

WANTED—Small or large quantities of amber honey. R. L. Griggs, Hancock, Iowa.

WANTED—Cut comb and white extracted. Can use several tons. Homer Godwin, Emison, Ind.

WANTED — Water white clover honey, truck or car lots; also light amber. Mail sample and lowest cash price. Write Stoller Honey Farms, Latty, Ohio.

HONEY FOR SALE

TRUCKLOADS clover honey in sixties. Walter Roose, Sac City, Iowa.

ANY GRADE — any amount. Alexander Company, 819 Reynolds, Toledo, Ohio.

CLOVER EXTRACTED HONEY in sixties. Ralph Gamber, 910 State, Lancaster, Pennsylvania.

HONEY, white clover, 18c per lb. 5 sixties or more, 17c. Satisfaction guaranteed. Lose Brothers, 206 E. Jefferson, Louisville, Ky.

CLOVER EXTRACTED HONEY in sixties, and five, three, one pound glass. Elmer Luebeck, Essex, Illinois.

PROFESSOR LUERSSEN'S top quality pure white clover honey in 60's, pasteurized and triple filtered. Priced right. 1301 E. Washington, Bloomington, Ill.

FANCY TUPELO and gallberry chunk comb, 1¼ and 2½ lb. square jars. N. Forehand, Destin, Fla.

WHITE CUT COMB HONEY, 4x5 chunks, wt. 13 to 16 oz., sealed in plastic bags packed in fancy window cartons. $8.00 case of 24, f.o.b. here. Satisfaction guaranteed. Asa Buren, Rt. 1, Cullom, Ill. Phone Kempton 2819.

100 cases of section comb honey. L. W. Miller, Piper City, Ill.

FOR SALE—Comb honey, buckwheat and goldenrod. Edgar Williams, Pierpont, Ohio.

SUPPLIES

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

THE BIGGEST BEE SUPPLY CATALOGUE PUBLISHED (64 pages) free for the asking. Big factory manufacturing a complete line of wooden goods, comb foundation, metal goods, veils and gloves, carloads in stock, daily shipments, save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

THE ONLY COMB FOUNDATION PLANT in the East. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, Rt. No. 3, Auburn, New York.

BEE SUPPLIES—Tin packages, 10 sizes glass jars, paper shipping supplies, window cartons and other items. Roscoe F. Wixson, Dundee, N. Y.

SOUTHERN CALIFORNIA HEADQUARTERS for Bee Supplies. Make our facilities your "Trading Post." Complete stocks. See our Bulletin Board for Budget Bargains. The Diamond Match Company, 1300 Produce St., Los Angeles 21, Calif.

BEE SUPPLIES—Catalogue free. Hodgson Bee Supplies Ltd., 565 13th Ave., New Westminster, B.C., Canada.

DADANT'S WIRED FOUNDATION, woodenware, containers, new and used bee equipment. Bogenschutz uncapping machine. Sioux Honey Assn., Box 1107, Sioux City, Iowa.

POSITION AND HELP WANTED

APPLICATIONS WANTED for year around work in commercial beekeeping. Give experience, age, and salary details in first letter. York Bee Company, Jesup, Georgia.

Western Canada Beekeeper—Canadian Bee Journal

With the July, 1952, issue, the Canadian Bee Journal absorbed the Western Canada Beekeeper which has ceased to publish. Our compliments to Editor Frank H. Williams at Winnipeg who has striven valiantly to continue.

As we understand it, the subscription list of the Western Canada Beekeeper will be merged into the Canadian Bee Journal list so there will be no interruption of copies to any subscriber.

Ad Index